ENDOSKOPİK LAPAROSKOPİK

& MİNİMAL İNVAZİV CERRAHİ DERGİSİ

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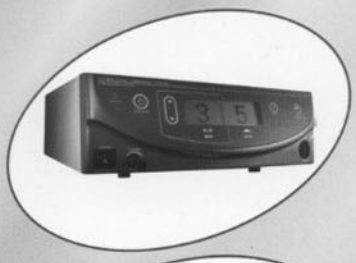

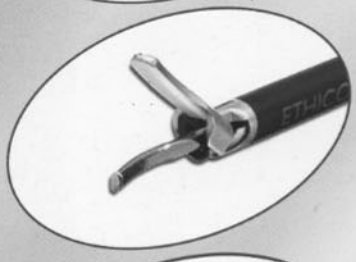

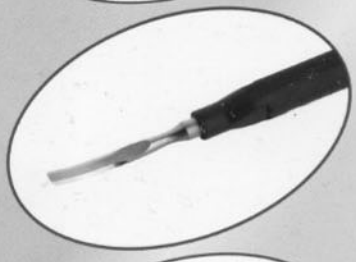

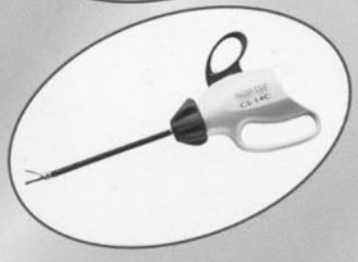

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ABSTRACT BOOK

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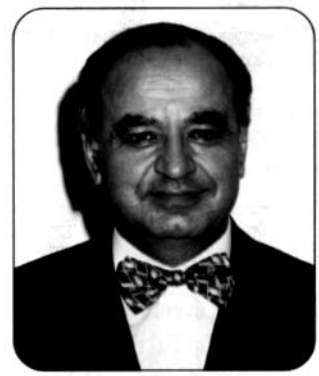
Welcome Message



Dear Colleagues,

The Third Congress of Mediterranean and Middle Eastern Endoscopic Surgery Association is going to take place on October 22-25, 2003 in Istanbul, Turkey.

On behalf of the Organizing Committee I have the pleasure of welcoming the Laparoscopic General Surgeons, Gynecologists, Urologists, Thoracic Surgeons from the Meditterranean, Middle Eastern and other countries to this Congress.

We hope Istanbul is an appropriate choice for this event, being a bridge between three continents around the Mediterranean basin not only geographically but also culturally.

In this 3rd Congress of MMESA, Istanbul will also be a bridge that will carry forward the up to date knowledge and experiences between East-West and North-South in Endoscopic and Laparoscopic field.

The first day of this congress, October 22nd, is scheduled to allow Turkish Association of Endoscopic Laparoscopic Surgery to give their presentations. During the morning session of the first day there will be an interactive live surgery from Free University of Brussels, St. Pierre Hospital.

On October 23rd and 24th between 9 am and 1 pm in the Main Hall there will be interactive live surgery sessions from Istanbul Medical Faculty, Cerrahpaşa Medical Faculty, Strasbourg CHU-EITS-France and F. Agostino Hospital in Modena-Italy. In parallel to these sessions, there will be other sessions related with gynecology, urology and thoracic surgeries.

We believe we will offer you a highly scientific congress, fruitful discussions plus real time interactive live surgeries.

We wish you all a succesfull congress and a memorable stay in Istanbul.

Cavit AVCI, MD

Congress President

GENERAL SURGERY

GERD AND ESOPHAGUS

01

Medium and long term follow-up after laparoscopic treatment of GERD

D. Russello, A. Di Stefano, M. Di Blasi, G. La Greca, T. Pontillo, V. Randazzo, G. Castello, S. Latteri

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BACKGROUND: In the last 10 years, surgical treatment of Gastro-esophageal reflux disease (GERD) had a great improvement, related to the large development of laparoscopy. Moreover, the physiopathology of Low Esophageal Sphyncter (LES) and, consequently, the natural history of GERD have been better understood. Although antireflux surgery, since its introduction by Nissen in 1956, warranted good results in resolving almost 90% of cases, the diffusion of Proton Pump Inibitors (PPI) brought a great success to GERD medical treatment. Thank to their efficacy, it seemed that surgery should be limited only to few particular cases. Anyway, initial enthusiasm declined after the evidence that drugs regimen is not always efficient in controlling all GERD features, so surgery still remained a valid option. On this basis, laparoscopy is useful in improving the patient comfort, through a reduction of post-operative pain, hospital stay and inability to work, in that reducing considerably the limitations of surgery. Since its introduction, antireflux thechniques have been frequently modified (length of fundoplicatio, hiatus closure, short vessels section, etc.), but its basic principles are now generally accepted. On the contrary, indications to surgical treatment are still under discussion, the approach to GERD being conditioned by different social and economical factors.

AIM OF THE STUDY: To evaluate prospectically the results of antireflux surgery in a consecutive group of GERD surgical patients, strictly selected accordingly to the criteria listed below.

PATIENTS AND METHODS: Our study involved 250 patients with Gastro-esophageal reflux disease observed for the first time in our departement in the last 3 years (2001-2003). Clinical features of the disease were investigated through a specific questionnaire. All patients were studied with endoscopy, pHmetry and manometry. Contrast x-rays of the gastro-esophageal junction were reserved to those suitable for surgical treatment. All patients recruited were managed with medical treatment for a 6-months period and then re-studied to evaluate clinical results. According to our selection criteria (complicated GERD, unacceptance or low compliance to medical treatment, several relapses after drugs interruption, biliary reflux, large hiatal hernias, Barret's esophagus) 37 patients (14.8%) were selected for surgical treatment.

RESULTS: Considering the 37 surgical patients group, in 29 (78.3%) cases typical symptoms of GERD were present, while 10 (21.7%) patients complained with atypical disturbs (mainly respiratory). Functional pre-operative studies demonstrated in all surgical patients severe and prolonged gastro-esophageal reflux episodes, with LES impairment. Hiatal hernia was present in 31 (83%) cases, oesophagitis in 6 (16%) (despite of drug therapy) and Barrett's metaplasia in 6 (16%). We performed 34 Laparoscopic Nissen Fundoplicatio (91%) and 3 (9%) Laparoscopic Posterior Valves (Toupet). 5.4% operations (2 patients) were converted to open surgery, both cases to treat a giant hiatal hernia. No peroperative complications were registered during a mean hospital-stay of 3 days. A gas bloat syndrome appeared 10 days after surgery, necessitating in-hospital observation. This case has been managed with medical treatment and recovered two weeks after. All patients but one were very satisfied with surgery in a 12 months mean follow-up. Just one case (2.7%) complained with GERD relapse 4 months

after surgical treatment. Diagnostic work-up showed relapsing of a large hiatal hernia, requiring a new open surgical procedure.

CONCLUSIONS: In this short series, laparoscopic antireflux surgery demonstrates a 97% successful rate in treating GERD, with a complications rate near to zero, an acceptable conversion rate and a short hospital stay. This excellent results should be interpreted as the effect of an extremely rigid selection of surgical patients (less than 15% of all GERD cases observed). If selection criteria are strictly respected, we believe that surgical treatment offers the best results for GERD.

02

Laparoscopic Heller myotomy

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The treatment of oesophageal achalasia consists in lowering the gradient pressure between oesophagus and stomach by cutting, disrupting or poisoning the fibers at the cardia junction.

Enthusiasm for botulinum toxin was short-lived and today is mostly reserved for elderly patients with contraindications to pneumatic dilatation or surgery.

Pneumatic dilatation is an effective means of relieving lower oesophageal sphincter obstruction but less effective than oesophagomyotomy.

The minimally invasive approach to achalasia has proved to be feasible, safe and effective in relieving symptoms in more than 90%of patients. Therefore laparoscopic Heller myotomy with posterior partial fundoplication appears to be the favored surgical approach, providing the opportunity for an excellent myotomy and antireflux procedure with minimal morbidity and short recovery.

03

Laparoscopic treatment of esophageal Achalasia

Theodoros Liakakos

Greece

Introduction: Esophageal achalasia is a primary esophageal motility disorder of unknown etiology, characterized by absence of esophageal peristalsis and increased or normal resting pressure of the lower esophageal sphincter (LES), which fails to relax completely in response to swallowing.

Clinical Presentation: Dysphagia is the most common symptom, experienced by virtually all patients. Regurgitation is the second most common symptom, and is present in about 60% of patients. It occurs more often in the supine position, and exposes the patients to the risk of aspiration of undigested food. Chest pain occurs in about 40% of patients, and is usually experienced at the time of a meal. Heartburn is experienced by about 40% of patients. In untreated patients this symptom is usually due to stasis and fermentation of food or esophageal distension.

Diagnosis: In addition to careful symptomatic evaluation, the following tests should be routinely performed:

Barium swallow usually shows narrowing at the level of the gastroesophageal junction ("bird beak"), and various degrees of esophageal dilatation. Endoscopy is important to rule out the presence of a peptic stricture or cancer, and gastroduodenal pathology. Esophageal manometry is the key test for establishing the diagnosis.

The classic manometric findings are:

(a) absence of esophageal peristalsis,

(b) hypertensive or normotensive LES which fails to relax completely in response to swallowing

Prolonged pH monitoring may be helpful preoperatively in patients who have previously failed treatment with pneumatic dilatation, Botulinum toxin (Botox), or surgical myotomy, for whom a myotomy is planned. Demonstration of reflux clearly indicates the need for a fundoplication in addition to the myotomy.

In patients older than 60 years of age, with recent onset of dysphagia and excessive weight loss, secondary or pseudo-achalasia should be ruled out. Because a cancer of the gastroesophageal junction is the most common cause of pseudo-achalasia, an endoscopic ultrasound or a CT scan of the gastroesophageal junction can help to establish the diagnosis.

Treatment: Treatment is palliative, and it is directed toward elimination of the outflow resistance at the level of the gastroesophageal junction. The following treatment modalities are available to achieve this goal:

Pneumatic dilatation has a success rate between 70% and 80 Gastroesophageal reflux occurs after dilatation in 25% to 35% of patients. Up to 5% of patients may sustain a perforation at the time of a dilatation. These patients may require surgery to close the perforation and perform a myotomy. Intrasphincteric injection of botulinum toxin results in initial relief of symptoms in about 60% patients, but this is transitory and symptoms will return in the majority of patients within a year. Subsequent injections are less effective and the benefit is of briefer duration. In addition, this treatment may cause an inflammatory reaction at the level of the gastroesophageal junction, which obliterates the anatomic planes. Consequently, a myotomy is more difficult, a mucosal perforation occurs more frequently, and the relief of dysphagia is less predictable. Because of these shortcomingsbotulinum toxin should be reserved for elderly or high-risk patients who are poor candidates for dilatation or surgery. Traditionally, pneumatic dilatation has been the first line of treatment for esophageal achalasia, while surgery was reserved for patients who had persistent dysphagia after multiple dilatations or who had suffered a perforation during dilatation.

Laparoscopic Heller myotomy: Today, minimally invasive surgery has completely changed this treatment algorithm and a laparoscopic Heller myotomy and partial fundoplication is preferred by most gastroenterologists and surgeons as the primary treatment modality. Critical details of the operation include a generous myotomy of the lower esophagus, extending well onto the gastric wall. Because of the lack of esophageal peristalsis, a partial (Dor or Toupet), rather than a total fundoplication is frequently added to prevent reflux. Patients can usually eat the morning of the first postoperative day, and can be discharged home after one or two days.

The need for esophagectomy for achalasia is very uncommon, even in the presence of a dilated esophagus, and should be reserved for failures after myotomy. Persistent or recurrent dysphagia occurs in 5% to 10% of patients. A complete work-up is necessary to evaluate the cause of the dysphagia in these patients, and either pneumatic dilatation or a second operation can often correct the problem. Up to 15% patients may experience gastroesophageal reflux after myotomy, as measured by 24-hour pH monitoring. In patients undergoing elective myotomy the mortality rate is less than 1%.

Expected Outcomes: About 90% of patients have long-term relief of dysphagia after a myotomy, with a low incidence of symptomatic acid reflux. Patients should undergo 24-hour pH testing routinely after surgery, as reflux is often asymptomatic, and should be treated with proton pump inhibitors if abnormal acid reflux is present.

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04

Conversion of laparoscopic to open cholecystectomy

Ceyhun Oral

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Operative safety of laparascopic cholecystectomies has become the matter of discussion after gaining widespread acceptance.Even after many years of experience, still higher biliary complications rates arouse the question of being late for conversion to open surgery.

Answering the question of "when to convert?" precisely undoubtedly will decrease the complication rates.

Many risk factors found statistacly significant varies in different reports in the literature.The risk factors gained wide acceptance are as follows: increasing age,acute cholecyctitis,previous upper abdominal surgery, thickness of gallbladder wall, male gender, BMI>30-40.

The indications for conversion of laparoscopic cholecystectomy to open cholecystectomy are as follows: Difficulty in;

1- Establishing pneumoperitoneum by closed or open technique

2- Identifying the cyctic duct-gallbladder junction

3- Skeletonizing the cyctic duct and cyctic artery

4- Using energy sources safely

5- Performing cholangiography liberally to discover important anomalies,clarify difficult anatomy and detect CBD stones

2) If laparoscopic dissection leaves uncertainity about the patients anatomy, or if a concern for injury exists, the surgeon should convert to open cholecystectomy without hesitation

3) If the surgeon encounters anatomic anomalies,or if inflammation, adhesions,intra abdominal fat, or bleeding makes visualization of the gallbladder difficult convert to open prevents the complications.

05

Unexpected gallbladder cancer after laparoscopic cholecystectomy

Tayfun Yücel

Taksim State Hospital, Turkey

Primary cancer of the gallbladder is a highly fatal disease. It is the fifth most common gastrointestinal cancers. Primary gallbladder cancer present with advanced loco-regional spread and is difficult to remove completely in surgery. Israel has the highest incidence of worldwide, other countries are Mexico, Chilie, Bolivia, China, Native Americans population. This cancer most typically is diagnosed in the seventh decade (62-68).

Tumors are located in fundus and neck. Lymphatic and local spread leads to liver invasion, portal vein, hepatic artery, hepatoduodenal ligament, celiac axis. 50% of patients have regional lymph node positive during admission. 20% of patients have peritoneal spread.

Risk factors: Ulcerative colitis and Crohn disease, chronic gallstone disease, end-stage cholecystitis (porcelain gallbladder), estrogens, typhoid carriers, smoking, alcohol consumption, gallbladder polyps, obesity, in animal models exposure to methylcholantren, female sex (3 to 1), dimethylnitrosamine via oral ingestion. Symptoms are not spesific for this cancer: pain, weight loss, jaundice, ascites.

Early diagnosis is difficult because of the absence of spesific symptoms and frequent association with chronic cholecystitis and gallstone. These patients can be divided intraoperative=occasional or postoperative occult carci-

noma forms. Adenocarcinoma is the primary histologic finding in 80-85% of cases. It has subgroups including papillary, nodulary, tubulary forms.

In practical terms, gallbladder cancers are unexpectedly diagnosed in the operating room during cholecystectomy or mostly after histologic examination. Examination of the gallbladder and frozen section is recommended especially risky patients 1. If you discover carcinoma during operation after frozen section, this patient needs complete surgical resection. It means unblock resection of gallbladder, nearest liver segment and portal lymph node. We have to obtain clear surgical margins. But only approximately 25% of patients can undergo curative surgery. During laparoscpic cholecystectomy if you noticed any abnormality related to carcinoma you have to use a bag for removing the gallbladder. T1 patient laparoscopic surgery is enough, but T2-T3 we should perform repeat curative surgery 2.

If carcinoma is suspected during laparoscopy, gallbladder can be resected but complications during laparoscopic cholecystectomy significantly worsen the prognosis 3. The incidence of port site metastases was 14% in patient undergoing laparoscopic cholecystectomy. But the long term prognosis seems to be worsened by laparoscopy 3. Some writers said that port site recurrens did not indicate an incurable stage an excision of recurrent tumor also eliminate this disease. The incidence of recurrence in the abdominal wall was increased but the medium term prognosis was not worsened by laparoscopy 4.

There were no differencies in survival and recurrence rate between laparoscopy and open surgery. But there was statistically significant correlation between survival rate and tumor stage and occurence of bile leakage 5. It is essential to avoid cutting tumor and spilling gallbladder contents during operation. Only nodal status and morphologic type of tumor are important prognostic factor 6.

To add radiotherapy is that it may control microscopic residual deposits of carcinoma in the tumor bed and regional lymph node. All patients with tumors beyond the mucosa are candidates for radiotherapy. We can obtain longer survival rates after adjuvant radiotherapy 7. Survival at 5 years is correlated with stage of disease at presentation after non-curative surgery, stage 2,3,4 tumors survival rates are 25%, 12%, 1-2% respectively. But after radical surgery, these rates are higher like 69%, 65%, 21% 7.

As a conclusion pathologic review of all gallbladder specimens is mandatory, If laparoscopic or open surgery has been performed and cancer is discovered, additional surgery and adjuvant radiotherapy should be considered. Patient undergoing reoperation after laparoscopic surgery, all port sites should have excised.

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06

Early laparoscopic cholecystectomy for acute cholecystitis: 10 - years of experience

F. Genco

Italy

Backround: Acute cholecystitis is one of the most frequent causes of hospitalization. The incidence of the acute cholecystitis is of abaut 20% of the patients With pathology ot the biliary tract.The illness is rare In Ihe adolescence but increases with the age. . Report female; -males 3:l until 50 aa and 1,5:1 after 30 year og age. f

Methods: This study reviewed 1079 consecutive patients who underwent laparoscopic Cholecystectomy in the Vibo Valentia General Hospital Ul.O.Surgery 2 between October 1992 and April 2003 There were 720 females and 359 males aged 14 to 91 years. Two hundred eight paticnts(19,3%) were diagnosed with acute cholecystitis. Earl) laparoscopic cholecystectomy was performed in two hundred three patients,and on Five patients with common bile duct stones was performed ERCP-ES and after forty eight Hours laparoscopic cholecystectomy.

Results: Mortality 0; the conversion rate from laparoscopic to open cholecystectomy Was four. Indications for conversion were bleeding I, inability to identify the anatomy to strong Adhesions 1 ,cholecystoduodenal fistula l,and Mirizzi syndrome I.Postoperative Complications for 208 patients included external bile leak in 2 cases(laparoscopy - recovery). Bleeding in 3 cases(laparoscopy recovery I .stopped hemorrhage within 24h 2),hidden cancer Of gallbledder (pTl laparoscopic cholecystectomy, pT2 NX M0 hepatic bisegmentectomy V - IV,periportal linfoadenectomy,escission of operating access).

Conclusions: Laparoscopic cholecystectomy represents the treatment of choice of acute cholecystitis. Conversion in "open" surgery depends mainly on the experience acquired from the surgeon. Important for the prevention of the intra-operatory complications

VENTRAL-INCISIONAL HERNIAS

07

Video laparoscopic incisional hernia repair

B. Sansoni, N. Apice, M. Beverati, A. Bruscoli

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INTRODUCTION: Incisional hernia (IH), which is a progressive disease, is frequently associated with respiratory and visceral problems and therefore, determines a fairly important impairment of the quality of life to the patients. It appears, usually, within the first three years, from the operation, with an incidence between 1% and 8% for the primary healed wounds, but the rate increases up to 10%, in cases of infected and purulent wounds.

MATERIALS AND METHODS: 235 patient have been operated for an IH repair from Jan 1995 to Dec 2002, in our Unit; M/F was 92/143 and average age 57 (22-88). Mean BMI was 31. 53 of the operations were started laparoscopically. The mesh used for laparoscopic repair was a double layer BARD Composix mesh 15x20 or 18x23 size.

RESULTS: 51 out of 53 operations were completed with a full laparoscopic access (conversion rate:3,9%). No mortality was reported and 8 complications occurred with a rate of 15,6% (2 seromas, 2 intestinal perforations, 1 mesh infection, 1 hematoma, 1 p.o. fever).

Postoperative hospital stay was 4.1 days in average.

Among the patients who had been operated at least two years previously, we reported 2 recurrences (3,9%), which were correlated to obesity and a very large defect.

CONCLUSIONS: IH can be repaired laparoscopically with very good results and great satisfaction for the patients. Recurrence rate is limited and complication rate is rather low when compared to the open technique. Nevertheless the risk of bowel perforation, which can be a life-threatening complication, must always be kept in mind, and thoroughly discussed with the patient.

08

Outcomes, risks and complications

Turgut İpek

Istanbul University, Cerrahpaşa School of Medicine, Turkey

Incisional hernia is a frequent complication of abdominal surgery that may develop in any abdominal incision. In long-term follow-up studies, Its incidence has been reported to be 10%. The recurrence rate is high: ~20-50% of lesions occur after surgical repair, depending on the closure technique, the size of the hernia, the number of hernias repaired.

Since 1992, a number of surgeons have applied laparoscopic techniques to the repair of abdominal wall defects because of its many advantages, including the avoidance of large incisions, the absence of large dissections and external drainage, a lower incidence of infection, and a reduction in pain and hospital stay

There are six studies in the literature comparing laparoscopic and open repair, only one of which was a randomized clinical trial. In the five retrospective studies the rate of recurrence with laparoscopic mesh repair was the same as, or less than, that of open mesh repair.

In the randomized clinical trial, patients had either open or laparoscopic mesh repair. The recurrence rate in the open group was 7 per cent; there was no recurrence in the laparoscopic group over the same mean follow-up period of 27 months. Complications were fewer and the hospital stay was significantly shorter in the laparoscopic group, although the staff taking care of the patients were not blinded to the type of procedure. Operating time was also significantly shorter in the laparoscopic group.

Five of six studies reported higher complication rates and longer hospital stay in the open group. The conclusion from all six studies was that laparoscopic incisional hernia is at least as effective and as safe as open mesh repair.

From the clinical point of view, concerns associated with utilization of biomaterials in hernia surgery are infection, seroma formation, intestinal adhesion, bowel obstruction, erosion of the prostheses into an adjacent hollow viscus, and failure of the repair due to contraction of the prosthesis. So;

- The risk of infection can be avoided by utulization of type III and particularly type I prostheses.
- The risk of seroma formation can be virtually eliminated by subaponeurotic and retromuscular implantation of type I and type III prostheses and drainage of the surgical field whenever a large sheet of mesh is used.
- The possibility of mesh-related intestinal adhesion, bowel obstruction and fistula formation can be eliminated by avoiding direct contact between the mesh and the intestinal tract or utilization of adhesion-free composites.
- Finally, problems associated with contraction of the mesh patch and mesh plug can be circumvented by using a sufficiently large piece of mesh to provide adequate mesh/tissue interface beyond the boundary of the hernia defect, by maintaining adequate laxity of the mesh while it is being fixed to the abdominal wall tissue, and by avoiding utilization of mesh plugs for the repair of abdominal wall hernias.

09

Treatment of the hydatid disease of the liver

Koray Acarlı

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Hydatid disease of the liver is still a heart problem in endemic areas of the world It is a parasitic disease, which ends up in cysts of various sizes in the liver Since an active cyst contains live material, it may grove am! may cause symptoms and (or com plications. Main indications for the treatment of the liver hydatid disease are symptoms, intrabiliary rupture, which may cause obstructive jaundice and/or cholangitis;, infection or allergic reactions, which may lead in rare cases to an anaphylactic shock

The accepted treatment of the liver hydatid cysts is surgsury. The aims of the surgery art evacuation of the cyst contents, prevention of (he spillage during this evacuation, sterilization of the cavity with accepted scolicidal agents and the management of the cavity to prevent any like fluid collection or abscess Formation

On the oilier hand this aims can be also Achieved in selected cases with laparoscopy Bui Some conditions like intra-parenchyroal location, multiplicity, difficult locations, advanced stage (calcified walls), biliary communication, large and complex cysts and recurrent disase may cause technical difficulties

In the last ten years a total of 281 patients with liver hydatid disease were treated in the HPB Unit of the Istanbul Medical Faculty of Istanbul University Of these patients 60 were treated with laparoscopy. In 8 of 60 patients conversion to open surgery was necessary due to difficult locations or intra-abdominal adhesions. Laparoscopic procedures performed are simple drainage in 30, unroofing in 16, omentoplasty in 3 and pericystectomy in 3 of the cases.

There were 2 intra-operative complications like diaphragmatic rupture and intra-abdominal contamination. Postoperative complications were biliary- fistuta in 6 patients, and cavity infection in 7 patients. Median postoperative hospital stay was 3.2 days (range: 2-16 days)

During the follow-up (1 month - 7,5 years) seroma fonmation in the residual cavity was observed in 13,5%, cavity infection in 5,8% and recurrence in 3,8% laparoscopically treated patients.

We can conclude that, in carefully selected patients laparoscopy can be an accepted alternative treatment method to Surgery in the treatment of the liver hydatid disease

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A new device for laparoscopic treatment of liver hydatid disease

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One of the most important steps of surgical treatment of liver hydatid disease is to avoid the dissemination of the cyst contents. It is relatively easy to take precautions; such as en effective exposure, placing gauze around the lesion and using a suction device. However it is not that useful to use a standard suction device during laparoscopic intervention of hydatid disease due to its negative effect on pneumoperitoneum. It also has the additional disadvantage in laparoscopy of the device's obstruction with solid contents of the cyst such as the germinative membrane or the scolex.

We have designed and developed an aspirator/grinder apparatus which effectively evacuates cyst contents easily, rapidly and securely with minimum risk of dissemination. With this third generation apparatus we are able to operate by use of laparoscopic method to remove hydatid liver cyst content more securely and rapidly without dissemination. In this video, we demonstrate a liver hydatid cyst evacuation surgery by usind this new laparoscopic aspirator/grinder apparatus with full details.

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Possible laparoscopic treatment of hepatic hydatid cyst

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The hydatidosis, a parasitical illness caused by the Echinococcus Granulosus, still represents a significant sanitary problem for the countries of the Mediterranean basin; amongst Italian regions, Sardinia is the highest hit region due to the method of sheep-breeding still in use.

Nowadays, surgery still is the chosen treatment, since its objective is to totally remove the cyst, prevent relapses and protect the undamaged hepatic parenchyma with the minimum perioperative morbility possible.

Among all surgical options, the technique that mostly satisfies the proposed objectives, although, in some cases, it has a greater surgical traumatism and a greater hematic loss, is certainly the radical pericistectomy.

The main advantage of this method is that the exogenous vesiculations are included in the resection. Exogenous vesiculations are real and vital gemmations of the mother-cyst, often placed inside the width of the pericyst, and their persistence within inevitably causes relapses.

Therefore, the tendency, where possible, is to prefer the radical pericistectomy.

In the last few years, thanks to the acquisition of a progressive experience in video-laparoscopic surgery, and thanks to the availability of a more effective equipment, this method has become suitable also for the hepatic hydatidosis treatment.

It must be clear that the mini-invasive treatments must be comparable at least for the indications, for the technique and for the results to the traditional ones, and therefore the first choice laparoscopic operation must be the radical pericistectomy. In fact, it is not acceptable that, just for the sake of carrying out the mini-invasive operation, less effective surgical techniques than necessary are used, which result to be "old-fashioned" or in any way in contrast with the indications of traditional surgery.

Even in this case, the advantages of the mini-invasive technique stand out, and these are:

a reduction in the post-operation pain, the duration of the paralytic ileus is lessened, and a reduction of the complications linked to laparotomy; all these factors contribute to noticeably reduce the stay in hospital.

From our preliminary data, the laparoscopic treatment is surely applicable to relatively small-size cysts, possibly with a esophitic growth, and surely not in touch with large vascular, biliary structures; although, as in the last case reported in the film, using the PAIR as the first surgical step, we aim at extending the indication to larger size cysts as well.

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Surgical anatomy and tips

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The testes descend from their site of origin high upon the posterior abdominal wall into the scrotum in the fetal life. During this process the testes carry along a part of the peritoneum (processus vaginalis) which becomes the tunica vaginalis.The left testis descends first. The right testis descends later than the left one and this explains the frequent incidence of right hernia.

Just before birth, the tunica vaginalis which is actually the lower expanded part of the processus vaginalis,becomes shut off from the upper part of the processus vaginalis and the peritoneal cavity. Sometimes the processus vaginalis is persistant;in this case we say that it stays patent which can be seen in approximately 20 % of adult. In young adults this open pathway enlarges and be the cause of congenital herniae.

The surgeons learn the anatomy of the anterior abdominal wall beginning from the anterior most layer;but it is very important to learn the layers of this wall beginning from the posterior (inner) wall for the laparascopic surgery.

The medial border of the hernial triangle is made by the lateral border of the rectus abdominis muscle, the inguinal ligament makes its base, the inguinal falx (conjoint tendon) makes its superolateral border; SIAS is the apex of this triangle. Pelvic differences in females and males may cause differences in this triangle. It is smaller in females,larger in males. This triangle is a weak area of the anterior abdominal wall. When intraabdominal pressure increases the anterior abdominal muscles slide over each other and the fibers of the deep ring contract so this weak triangular area strenthens.This is called the shutter mechanism.The inguinal hernia is seen more often in males, one of the reasons is that the inguinal triangle is large.

There are two techniques to perform laparoscopic surgery: TAPP and TEP.In TAPP,the peritoneum is cut open to enter the extraperitoneal region. After this step, the two techniques follow the same procedures. The anatomical structures should be revealed first. It is important in TAP technique to see and define the pearl grey Cooper ligament and the inferior epigastric vessels first of all.

The aponeurotic arch of the transversus muscle (extends between SİAS and pubis) is the image of the inguinal falx anteriorly. Although some authors accept the strong and thick iliopubic tract as the thickened form of the inguinal ligament, it is a differeny individual structure, lying between the SIAS and os pubis. Cooper ligament lies on the superior ramus of the pubic bone. At the lateral and inferior of the iliopubic tract, dissection should never be performed. Because there are two nerves (femoral branch of the n.genitofemaralis and n.cutenus femoris lateralis) lies in this area.

The most important advantage of these techniques is, to see the three potential hernia fields. These surgical techniques have some tips; such as to create a space, to prevent the seroma, to pull down the hernia sac.

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Laparoscopic treatment of inguinal hernia repair (TAPP)

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Syria

The present study reviews our experience and the benefits of laparoscopic treatment of inguinal Hernia repair.

AIM: Inguinal hernia repair is among the oldest most commonly performed operations in general surgery from old time.

In Syria we try to apply the way of Laparoscopic Transabdominal pre-peritoneal inguinal hernia repair (TAPP Approach.)

I present and display a video film of my statistics which is about 80 patients have been treated by the TAPP with polypropylene Patch 10*15 cm without drainage.

Methods: All patients were males, there have been 52 right inguinal hernias and 28 left.

We have 45 indirect, 31 direct, 2 pantaloon and 2 inguinal -scrotal hernia.

We had some accompanied cases like cholecystectomy 2 patients, varicocele 3 patients, and 4 bilateral inguinal hernias.

We had no conversion, no intra or postoperative complication, only one patient with recurrence.

- According to our experience we find that the (TAAP) is a safe surgery with an experienced surgeon and has low recurrence and a lot of advantages like tension free and early recovery without pain.

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Laparoscopic preperitoneal inguinal hernia repair (TEP)

George Ammar

Lebanon

A study done about personal experience of 1074 inguinal hernia.the standard technique is to create a space between the anterior abdominal wall and the peritoneum in the sub ombilical area.

This space is done with a balloon dissector followed by dissection of the sac respecting the vase and the testicle vessel. Then fixation of the prostheses by tucker applier.

The results are excellents, the recurrence is minimal (2.3 %) conversion is rare. The disadvantage of this technique is the high cost.

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Laparoscopic versus open tension free techniques

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There are several prospective randomized studies comparing these techniques. Patients are generally evaluated according to cost, length of hospital stay, complications and recurrence rates. Length of hospital stay was similar in two groups but complication rate was lower in laparoscopy groups (8-10%) than open (18%). Recurrence rates were 0-2 % in laparoscopic repair and 0-1 % in open. The cost was higher in laparoscopic technique.

Some other studies investigated the operative time, postoperative pain and time of return to work. Laparoscopic repairs took longer, had less operative pain and analgesic consumption.

Laparoscopic techniques are particularly best fit for bilateral or recurrent hernias because the operation can be performed using the same holes for both sides. But, open procedures should be the operation of choice for patients with unilateral groin hernia.

BENIGN COLO - RECTAL DISEASE

16

Laparoscopic assisted restorative proctocolectomy

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Restorative Proctocolectomy (Total Proctocolectomy with Ileal Pouch Anal Anastomosis) is the procedure of choice for ulcerative colitis and familial adenomatous polyposis. Colonic inertia, colonic Crohn's disease and synchronous colonic tumors are rare indications of Restorative Proctocolectomy (RP). Successful results in laparoscopic colon resections for benign and malign colorectal diseases have encouraged the surgeons for more complex procedures. Laparoscopic approach has been a feasible procedure for RP with the development of advanced laparoscopic techniques and experience. However, surgeons who are willing to perform laparoscopic RP should be experienced on both advanced laparoscopic skills and open RP techniques. Although laparoscopic RP requires longer operative time, and increased operating room expense, it has potential advantages such as reductions in postoperative pain, ileus, length of hospitalization, and quicker return to daily activities. Laparoscopic assisted RP provides better cosmetic results and it is important for patients who candidate the RP, because they are often young. Mechanical small bowel obstruction is one of the major complications following the RP. Adhesion formation and such complications like small bowel obstruction, infertility and chronic abdominal pain may rarely occur in minimally invasive procedures. Therefore, laparoscopic RP appeals a good alternative to an open RP. Moreover, instead of a long midline incision, suprapubic incision and trocar sites rarely lead to wound problems such as infection, dehiscence and postoperative hernia. Additionally, laparoscopic RP or laparoscopic subtotal colectomy can be even reliably done for acute colitis due to ulcerative colitis.

SOLID ORGAN

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Laparoscopic splenectomy

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After the first reports by Delaitre (1991), Carell (1992) and Thibault (1992) Laparoscopic Splenectomy was shown to be safe and feasible in a number of studies (Cadiere, 1994; Emmermann, 1995; Flowers, 1996; Stephens, 1997; Trias, 1998). The main indications are the same as for open splenectomies: Immune thrombocytopenic purpura (ITP), thrombotic thrombocytopenic purpura, haemolytic anaemias, secondary hypersplenism and splenomegaly, myeloproliferative disorders, staging of lymphomas, chronic lymphocytic leukemias etc. A study by Katkouda (Ann Surg. 1998) showed an 84% immediate platelet response of patients with ITP after laparoscopic splenectomy. There was a 92% haemoglobin response in patients with hereditary spherocytosis. Laparoscopy was equivalent to open splenectomy for feasibility and haematologic response. For laparoscopic splenectomy to become the "goldstandard" it must show in addition to the above a better quality of life and improved cost effectiveness. Vilanovich and Shurafa (Eur. J. Surg., 2001) in a study of 44 patients showed a decrease of bodily pain and shorter hospital stay for laparoscopy. Friedman et al (J. Ann. Coll. Surg., 1997) showed a cost saving of $ 4000 per case.

Technique: Five and three port techniques in a right lateral decubitus and reverse Trendelenburg position and a 30% scope are being used. In the "hanged spleen" technique the posterolateral peritoneal attachments or the spleen are divided last. Traction is applied from the stomach and short gastrics and from the colon and splenocolic ligament to explore the hilum. The surgeon proceeds from below upwards and from medial to lateral. The

splenic artery and vein are divided using a vascular endoscopic stapling device. Using an alternative approach, the posterolateral attachments of the spleen are divided first, starting from above. The spleen is completely freed before the vascular pedicle and the short gastric vessels are taken with a stapler. The spleen is removed in a specially designed bag followed by finger fracture.

Laparoscopic splenectomies for very large spleens (over 20cm) are controversial. Controversial remains the place of laparoscopic splenectomy for haematological malignancies – lymphomas (Baccarani, 1998; Velanovich, 2001). There is a similar incidence of residual splenic function following open and laparoscopic splenectomies (Gigot, 1998' Velanovich, 2001).

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Laparoscopy in the management of splenic injuries

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Lebanon

The use of laparoscopy in abdominal trauma remains controversial. As a diagnostic tool it has some advantages couples with significant limitations. However, there is a therapeutic role for laparoscopy in the management of isolated splenic injury. Four patients were treated successfully by laparoscopy without any complications. Three had laparoscopic splenectomy as the spleen could not be salvaged. One patient was treated with Argon Beam laser for control of bleeding and did very well. Our video presentation will highlight the critical steps in these procedures.

ENDOCRINE SURGERY

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Laparoscopic spleen preserving distal pancreatectomy

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The use of the laparoscopic approach in the treatment of cystadenomas, located in the tail or the body of the pancreas, is held to be particularly indicated. Magnification gives a highly defined image, making it easier to spare the splenic vessels and to perform a distal spleen-preserving pancreatectomy than is possible with laparotomy.

The patient is placed supine with his legs spread. The Operator positions himself between the patient's legs looking at a Video monitor placed at the head of the patient. Four trocars are used.

The pancreatic exploration is realized through an infragastric approach. In order to obtain total visualization of the anterior surface of the body and tail of the pancreas, the greater curvature is lifted upwards and a wide window is opened in the gastrocolic ligament. The dissection proceed, slowly, along the inferior border of the pancreas, in a lateral direction, towards the tail, which is thus mobilized and finally placed in a vertical position. This maneuver allows subsequent dissection of the posterior pancreatic surface as well as visualization and preservation of the splenic vessels. An endostapler (the 30 mm EndoGia*, blue cartridge) performs the pancreatic transection. It is possible to use one or more fires with the security of a good hemostasis and of a perfect Wirsung closure. The specimen is removed inside an endobag. A drain is positioned close to the pancreatic transection site.

On the basis of preliminary results regarding the first twenty nine patients treated in the context of this on-going study, the Authors stress the reliability of the technique, which they believe may come to be accepted as the new therapeutic standard for this disease.

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Laparoscopic adrenalectomy in malignant tumors

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Malignant adrenal tumors are rare neoplasia and include malignant tumors of the adrenal cortex, malignant pheochromocytomas and metastatic tumors.

Adrenal cortical carcinoma is a rare endocrine neoplasm with a worldwide incidence of approximately two per million population(1). There seems to be a higher prevalence of adrenocortical carcinoma in patients with incidentally discovered adrenal mass(2).

Among the radiologically detected adrenal masses, one in 1500 lesions may be an adrenal carcinoma (3). In series with tumors sized over 5 cm, carcinoma may be found in as many as 7% of patients (4). These tumors are functioning in a percentage of about 60%. This usually includes Cushing´s syndrome or mixed hormonal picture. The disease has rapid onset and often abdominal symptoms.

Δhe incidence of pheochromocytoma is 1-2/100,000 adults per year (5). Of these approximately 10% are malignant. The classical presentation of a patient with pheochromocytoma is bouts of paroxysmal hypertension, although it occurs in only 50% of the patients. Other presentations include a normotensive patient with episodic hypertension or chronic hypertension without symptomatic episodes.

Solitary adrenal metastasis may metastasize from lung, renal, bowel, breast, gastric cancer, lymphoma and melanoma. Surgical excision is advantageous to the patient if complete removal of the tumor is feasible.

Malignant tumors can be approached by a midline incision, an extended subcostal incision, or thoracoabdominal approach for large tumors with organ infiltration. Posterior retroperitoneal approach is reserved for small benign tumors or bilateral disease.

Laparoscopic surgery could be an accepted method in the surgical management of cancer if it fulfills a number of parameters. It must be as safe and radical as conventional open surgery. Experience with bowel surgery, the field with the largest series in laparoscopic surgery for cancer, indicates that oncologic principles are not compromised by the laparoscopic technique per se. Advanced laparoscopic techniques are mandatory. Moreover it has been suggested that laparoscopic surgery attenuates the cytokine response, reduces the peritoneal trauma resulting in a decrease in tumor cell implantation (6). However laparoscopic surgery for cancer has not been taken up worldwide because of the long learning curve of a much more technically demanding technique as compared with the laparoscopic cholecystectomy. Furthermore there were concerns regarding local recurrences and port-site metastasis after potentially curative resections. It seems that such complications are related to poor surgical technique, improper handling of the tumor and lack of preventive measures of local recurrence and port-site metastasis. Several strategies have been proposed to prevent port-site metastasis as wound protectors, evacuation of the pneumoperitoneum through port, peritoneal wound closure etc. (6).

The role of laparoscopic surgery for malignant adrenal tumors is controversial, because there are few data in the literature for a rare disease. Three cases of diffuse peritoneal dissemination and death of patients who underwent laparoscopic adrenalectomy for adrenal cancer have been reported (7). On the contrary Heniford and colleagues in a review of 10 patients with metastatic adrenal tumors and 1 patient with adrenocortical carcinoma, reported no local or port site recurrence at a mean follow-up time of 8.3 months (8). In the largest series in the literature, 21 patients who underwent laparoscopic adrenalectomy for malignant tumors were reviewed (9). There were 3 locoregional recurrences (2 local and 1 lymph node metastasis) in the 6 patients with primary adrenal cancer and occurred 1 to 2.5 years after resection. There were no local recurrences in the 13 patients with metastatic adrenal tumors.

From May 1997 to September 2003, sixty-six patients underwent 70 adrenalectomies for adrenal tumors, in our Unit. Of these, 7 had malignant tumors (10.6%). There were three primary adrenocortical carcinomas, one

metastatic tumor from lung cancer, one patient with bilateral metachronous adrenal metastasis from colonic cancer, one recurrent malignant pheochromocytoma and one inoperable malignant pheochromocytoma.

One patient had a pheochromocytoma with malignant potential on histology and underwent laparoscopic adrenalectomy. Six years following the procedure there is no evidence of recurrence.

In a young patient with aggressive adrenocortical carcinoma the tumor was en-block excised with part of the inferior vena cava, which was infiltrated. Patients with primary adenocarcinoma of the cortex are alive 2 months, 26 and 28 months after operation.

We have approached with laparoscopy two patients with adrenocortical carcinoma but converted to open due to difficulty in mobilization of the tumor.

A prospective randomized study for the role of laparoscopic surgery in adrenal cancer is not feasible because of the rarity of primary and metastatic adrenal malignancies. Given that no accurate preoperative diagnosis can be obtained for primary adrenal malignancy, suspected malignant adrenal tumors can be approached laparoscopically to establish the diagnosis. Small tumors can be excised laparoscopically if complete curative resection can be achieved. Patients who have local invasion or require organ resection should be converted to an open approach.

Table 1. Laparoscopic surgery for malignant adrenal tumors

Author	Journal	Tumor size (cm)	Pts	Abd. Dissemination
Heniford BT	Semin Surg Oncol 1999;16:293	1.8 – 12	12	(-) 0.5 – 19 months
Hobart MG.	J Endourol 2000;14(2):149	>5	3	(-) 9 months
Henry J.	World J Surg 2000;24:1342	3.5 – 4	4	(-) 12 months
Valeri A.	Surg Endosc 2001;15:90	2.5 – 6	6	(-) 3-18 months
Clark OH	Arch Surg 2002;137:948-51	2.5-12	6 primary 13 metastatic	3 local recurrences 65% dis.free survival in 3.3yrs
Henry JF	World J Surg 2002;26:1043	> 6	6	6 months liver metas.
Rassweiler J	J. Urol 2003;169:2072		11	1 local recurrence 1 port-site metastasis
Lombardi CP	Tumori 2003;89:255		9	(-)

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Laparoscopic excision of pancreatic insulinoma

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Insulinomas consitute an interesting endocrine tumors due to the diversity of their symptoms and potential difficulties in diagnosis and management. We present a case of 58 year old male with recurrent episodes of hallucinations, sweating and dizziness of 10 years duration. He also suffer from Morbid Obesity and Chronic Obstructive Pulmonary Disease. Insulin level was 54 and glucose was 44 with I/G ratio of 1.2. Endoscopic Ultrasound and CT Scan of the abdomen were not helpful. Resection of the pancreatic insulinoma was performed laparoscopically. Technical details are illustrated on a video presentation. Pathology confirmed a well defined Islet Cell Tumor. Post-operative course was complicated with pancreatic fluid collection that was drained under CT Control. Patient was finally discharged home and remain disease free for the past 7 months.

Laparoscopic resection of Pancreatic Insulinoma is feasible and has several advantages with minimal complications. Although the World's experience remain limited, other pioneers report variable success rates with this approach.

LAPAROSCOPY IN CANCER SURGERY

22

Laparoscopic principles in oncologic surgery

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Italy

Controversy continues to surround laparoscopic resections for malignancy. Furthermore no data from ongoing randomized controlled trials are available at the moment. The oncologic surgical rules have been defined after more then one century of open surgery and the oncological results are consiquent to surgical techniques. Without forgetting the high probability of cancer cells implants, we know well that the respect of oncologic principles along with the adoption of all devices to cut down local recurrences can reduce the risk of cancer cells implants. The data from literature show that there is a great attention towards the laparoscopic procedures for malignancy. In most cases the Authors act with due care. However some published controlled studies show that the surgical approach (laparoscopic vs open) does not seem to be a determining factor to mobilize neoplastic cells and that the late results of laparoscopic resections for colonic cancer do not show parietal wall recurrences rates greater than in open surgery.

METHODS: from 1991 to 2002 we submitted to laparoscopic procedure (diagnostic and/or operative) 4.323 patients . Only 358 (8%) for malignancy. Of these 152 (41%) were submitted to diagnostic laparoscopy and 214 (59%) had operative resective laparoscopic procedures: 167 colo-rectal resections, 18 adnexal masses, 8 gastric neoplasms, 8 cholecystectomies (unexpected post-operative findings), 6 aortic-iliac lynphadenectomies, 4 radical nefrectomies, 3 other resections. 8 patients (3.7%) were lost to follow up evaluation. After a mean follow up of 46 months (range 10 -132 ms) we did not find any parietal wall recurrences in all patients

except 2 (0,9% and 25%) on cholecystectomy group. As reported from literature the gallbladder cancer shows a high risk in local recurrences.

CONCLUSIONS: Although most of port site recurrences are due to technical surgical problems and can be avoided by adapting the correct oncologic surgical principles as in open surgery, some features of the minimal invasive techniques facilitate tumour growth and should be kept in mind when performing mini - invasive surgery for malignancy

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Staging in pancreatic cancer the role of laparoscopy

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Most patients with pancreatic carcinoma have advanced disease at presentation and prognosis is poor, with 2-3% overall 5-year survival. This devastating disease is presently the fourth leading cause of cancer related death in industrialized world. Surgical resection of the tumor is still the only effective treatment option, although only about 20% of adenocarcinoma of the pancreatic head are resectable. Identifying the few patients who could benefit from curative resection is important, but diagnostic evaluation should not increase morbidity for those with advanced disease and short survival time.

Laparoscopy has become a popular and widespread Surgical technique. An important goal in the treatment of patients with pancreatic cancer is to avoid any unnecessary procedure. Supporters of laparoscopy recommend it as the gold standard in staging pancreatic cancer, especially when it is combined with laparoscopic ultrasound.An obvious advantage of diagnostic laparoscopy is the possibility for taking biopsies and peritoneal lavage for cytological examination. Nevertheless, how many patients benefit from this procedure remains a question.

Several studies were performed in different clinical centers to evaluate the reasonability of diagnostic laparoscopy . The results are controversial. Warshaw et al and Fernando-del Castillo from Massachusetts General Hospital reported incidences of 35 and 24% of CT occult metastases using laparoscopy. Occult metastases were more often found in patients with tumors of the pancreatic body and tail (44%). Furthermore, Jimenez et al. reported that in a series of 125 patients with pancreatic cancer who first underwent a CT scan and afterwards diagnostic laparoscopy with peritoneal cytology, in 39 patients (31%) laparoscopy revealed metastases which were not described before. In another study, metastases were found only by laparoscopy in 30% of 239 patients, preventing laparotomy in patients who were scheduled for tumor resection. Therefore, groups supporting a more frequent use of diagnostic laparoscopy in pancreatic cancer concluded that many patients will benefit, as unnecessary laparotomies can be avoided and staging as well as therapy can be optimized. However, several problems are obvious in all this studies. First, there important differences in the selected patient populations and the second problem is the inconsistent use of high-quality helical CT scans. Therefore it is difficult to evaluate the usefulness and the accuracy of diagnostic laparoscopy.

Other clinical centers that are very well experienced in the area of pancreatic surgery have revealed less promising results than the groups promoting diagnostic laparoscopy. A study from Heidelberg included 181 patients with pancreatic cancer, of which only 14% could benefit from laparoscopy. Furthermore a cost-benefit analysis was performed to evaluate the usefulness of diagnostic laparoscopy. The ratio of patients undergoing diagnostic laparoscopy with an intraopeative change in the therapeutic plan was compared to patients in whom a diagnostic laparoscopy would have been followed by a laparotomy as a preoperatively planned. The ratio was 1:7 meaning that 7 unnecessary laparotomies would have been performed to prevent 1 laparotomy. Bottger et al reported reliable staging in 95% in a series of 307 patients with pancreatic cancer using CT scan ERCP and angiography and found only 5% of patients with occult metastases who would have benefited from diagnostic laparoscopy. Furthermore review articles from Pisters et al. and Furmell et al. conclude that a selective use of diagnostic laparoscopy is more appropriate, and routine laparoscopic staging should be avoided in patients with pancreatic cancer.

In conclusion only 4-14% of patients with pancreatic cancer benefit from diagnostic laparoscopy indicating why routine application before each potentially curative resection is not justified as long as a high quality CT scan is available. A selective use is more appropriate; e.g. in patients with larger primary tumors, tumors of the pancreatic body or tail, suspected liver or peritoneal lesions, patients with ascites, or clinical and laboratories findings suggesting an already advanced disease stage.

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COLO-RECTAL SURGERY

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Laparascopic left hemicolectomy

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Italy

The operation is carried out with 5 trocars; the first 10 mm trocar is placed paraumbilically, right of the umbilicus the second in the right iliac fossa just laterally to the epigastric vessels at 9cm, or about four fingers width, from the umbilicus, the third trocar is placed equidistant from T1 and T2 to form an equilateral triangle between the optics and the two operating trocars. The surgeon's right hand is in T2 and his left hand is in T3.

The other two trocars, both 5mm, are then inserted; one in the left flank far laterally and equidistant between the costal arch and the left anterior superior iliac spine and the other in the left para-xifoid region.

The operating surgeon is on the patient's right, the first assistant on the surgeon's left and the second assistant is on the patient's left, opposite the surgeon.

The patient is in supine position with arms alongside the body and legs apart in deep Trendelemburg position, rotated to the right. The instrumentalist is on the right of the patient at the level of the right lower limb.

The operation is completely standardised from the start to the finish. The surgeon always has both instrument hands free and the assistants have a very precise roles. The operation begins with the assistant holding up the Treitz muscle with his left hand and the surgeon lifting the inferior mesenteric vein.

He then proceeds behind the inferior mesenteric vein rather than behind the inferior mesenteric artery, since it is easier to find the plane for separating the fasciae behind the vein. The assistant's left hand then substitutes the surgeon's and passes from holding up the Treitz muscle to holding up the vein, so that the surgeon has both instrument hands free and can find the plane of separation posteriorly to Gerota's fascia, covered by a peritoneal membrane which is the residue of the primitive parietal peritoneum.

He then finds the posterior plane and the artery, which is clipped and sectioned. Doing it this way makes it easier to find the correct plane behind the artery. Once the artery has been sectioned it is lifted and pulled towards the surgeon so that a tent is formed between the inferior mesenteric artery and vein and the posterior plane.

Here the posterior plane can be seen, with the ureter and the gonadal vessels all covered by Gerota's fascia and the posterior primitive parietal peritoneum. As you can see, the plane is all completely visible and is dissected from right to left while the two assistants continue to hold up the inferior mesenteric artery and vein ensuring that the tent remains open. This approach allows the entire operation to be carried out with the colon in place and without risk for the retro-peritoneal structures which remain behind Gerota's fascia. The plane is progressively uncovered both at the bottom and at the top. We are already at the splenic flexure.

Gerota's fascia can be seen very clearly in the point of reflection behind the flexure. The dissection proceeds from right to left, taking it as far left as possible so that later, when the flexure is lowered completely, the colon can be lowered very easily. If this dissection is not carried out to the extreme left there is a risk that when the colon is pulled from left to right the retro-peritoneal structures, which should remain on the posterior plane, will be pulled along with it.

The entire posterior dissection for the separation between the embryological planes is exsanguine and proceeds upwards until the inferior margin of the pancreas is reached, which can now be seen above Gerota's fascia.

The entire inferior margin of the pancreas which, however, must remain posteriorly, is visible. Here we see Gerota's fascia which we leave to go to the pancreas. At this point the assistant on the patient's left flank lifts the transverse mesocolon and the assistant to the left of the surgeon lifts the vein. By holding up the transverse mesocolon in this way it is easier to pass to the front of the pancreas and section the root of the transverse mesocolon. Now we leave the plane of Gerota's fascia with the pancreas behind it and move up, above the inferior margin of the pancreas, in front of the anterior face of the pancreas and complete the sectioning of the transverse mesocolon; the epiploic cavity is open and the stomach can be seen. The inferior mesenteric vein is now sectioned; it was not sectioned before as this would have upset balance of the plane and the tent, which has allowed us to remain on the correct right plane, would not have been formed. The vein is kept lifted, as is the transverse mesocolon, by the assistant on the left side. The sectioning of the transverse mesocolon is finished, sectioning completely from right to left, the pancreas falls down and the epiploic cavity is completely open and the transverse colon has been completely detached from its posterior adhesions. Only in this way can the flexure be lowered fully for the later phases of the operation. The epiploic cavity, the colon and, at the back, the posterior face of the stomach can be seen. Here is the posterior face of the stomach, then the pancreas, the body and tail of the pancreas and Gerota's fascia posteriorly.

After this the operating field changes completely and we proceed towards the left parietal colic recess, with the surgeon's left hand holding the sigmoid pulled towards the right and the first assistant's left hand holding the descending colon, also pulled towards the right. The surgeon's right hand, using the ultrasound device, opens the point of adhesion of the left lateral face of the primitive mesentery in the direction of the primitive parietal peritoneum. In effect the primitive mesentery turns away from the median line and positions itself above the primitive parietal peritoneum, passing from the median sagittal line of the embryonic period to the successive period in which all the primitive intestine lies in what we call the left parietal colic recess.

These are the points of adhesion of the primitive mesentery above the primitive parietal peritoneum.

This dissection should always proceed on the plane of the embryological adhesion so that the primitive parietal peritoneum covers the left iliac artery and the left iliac vein. The ureter also remains below the primitive parietal peritoneum and we can enter into the posterior plane that was prepared earlier, moving from right to left without any risk for the ureter and the gonadal vessels which remain underneath, proceeding progressively from bottom to top in the direction of the splenic flexure. The ureter can be seen behind, you can see it now. Here is the ureter in the point where it crosses over the left iliac artery and most of it is still covered by the primitive parietal peritoneum. Then we move up, from bottom to top in the direction of the flexure keeping to the previously prepared plane. Vision is very good posteriorly, and therefore there are no risks for the retro-peritoneal structures (the gonadal vessels, the ureter, the kidneys) which all remain below Gerota's fascia and the primitive parietal peritoneum. We then move progressively upwards, all the time keeping the descending colon lifted and pulled to the right. The pancreas and the remaining adhesions of the splenic flexure can be seen posteriorly.

You can see behind the spleen and at this point the surgeon changes position and places himself between the legs of the patient. When the splenic flexure is difficult, it is better for the surgeon to take up this position between the legs of the patient and completely change the type of exposition. That is to say the grasper from the right iliac fossa, where the ultrasound device had been before, is used to hold the descending colon pulled caudally. The surgeon, now positioned between the legs of the patient, uses the grasper from the trocar on the right flank with his left hand and the ultrasound device from the left flank with his right hand.

The grasper from the epigastric trocar holds up the omentum. In this way, as you can see in the following sequence, it is possible to operate on any flexure, even the most difficult, proceeding from left to right holding both the transverse and descending colon caudally, separating the epiploic colon from left to right.

The direction is ideal because the grasper from the left flank actually proceeds from left to right, whereas one from the right iliac fossa would not be in a suitable direction for lowering difficult flexures. Easy flexures, however, can be operated from the right iliac fossa. Here we can see the spleen at the top, the completely lowered flexure, Gerota's fascia posteriorly, the pancreas, the anterior face of the pancreas and the inferior margin of the

pancreas. The flexure is now completely lowered. Next we move downwards in order to perform the dissection in the direction of the pelvic cavity while the grasper from the epigastric trocar pulls the inferior mesenteric artery cranially, it can be seen now, and the grasper from the left side pulls the sigmoid cranially.

By doing this the sigmoid-rectum passage, the mesosigmoid-mesorectum passage and the lateral face of the mesorectum are well exposed. Dissection of the plane on the lateral right face of the mesorectum at the passage between the sigmoid and the rectum and on all the fat of the right lateral side is carried out until the posterior face of the rectum in front of the promontory can be seen and the superior hemorrhoidal vein and artery can be identified on the posterior margin of the mesorectum. Once identified they are clipped and sectioned. With the superior hemorrhoidal vein and artery sectioned the mesorectum is effectively interrupted and we proceed with putting a clamp, with the left hand, between the tumour and what will be line of sectioning.

At this point the rectum is washed trans-anally with an iodine solution and after washing we insert the endoGIA from the trocar in the right iliac fossa and a transectioning of the rectum is carried out perpendicularly.

Next, the suturer is inserted trans-anally, the stapler is taken out and vessel ligation is performed at the origin and the proximal colon is prepared for the anastomosis. In the meantime the piece has been removed through a mini-laparotomy in the left iliac fossa. The proximal colon is brought down and then put back in with the head for the anastomosis to be performed. As you can see the colon is very long when the flexure is completely lowered and is not under tension when the anastomosis is performed and the stumps are very well vascularized.

BILIARY TRACT

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CBD injury after laporoscopic cholecystectomy in Smc - Bah

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Bahrain

Salmaniya medical complex is the main government hospital in the state of bahrain (arabian gulf). with more than 5000 major cases going for surgery every year, laparoscopic surgery was introduced in april 1992 with laparoscopic cholecystectomy. Since then until january 2003, about 1958 laparoscopic cholecystectomy have been done. This is a review of the most serious complications of this procedure which we call it "the surgeon's nightmare". out of 687 in first five years procedures, we had 6-cases of cbd injury, (0.87%). we categorize them in 5-grades - " i" ilia, 111b, iv. in second 5-years, out of 1271 case,

we had onl y one case of cbd injury. They underwent different management according to the grade of injury. our rate is more or less similar to the other centers. we conclude:

1. using of 30 camera in difficul t case-
2. per-operative cholangiogram to be done if any doubt about duct injury.
3. ercp -the best post -op investiga tion for suspicious duct injury
4. the rate of cbd injury is decreasing in bahrain.

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Bile duct injuries in laparoscopic cholecystectomy

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Algeria

The main problem during laparoscopy cholecystectomy is how to avoid bile duct injuries which are increasing. We report retrospective study < about the subject. 689 patients were enrolled between 1997 and 2002. Acuteand chronic cholestitis were performed routinely by laparoscopic way without anyone exclusion criteria; Cholangiogram wasn't done systematically during the procedure (less than 10%)

Conversion rate was 4 %. Three (03) bile duct injuries observed, Only one of them was discovered and treated on place; The two others returned to the hospital some days after cholecystectomy, one with jaundice, the second with an acute peritonitis. We have treated also two another cases coming from . duct but burns due to the use of monopolar coagulation was noted.Motality rate was 2 / 5. So, to decrease bile duct injury, it's necessary to. PerformCPO systematically. For avoiding it ?dissection of pedicle eyst must be done with canula of succion - irrigation system.Never monopolar coagulation has to be used before cystics elements have een well identified.

NEW TECHNOLOGY, TELEMEDICINE AND ROBOTIC SURGERY

27

Current status of laparoscopic instruments and equipment

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INTRODUCTION: Laparoscopy was undoubtedly the main revolution of the last decade of twentieth century in surgery. It is impossible not to be fascinated by its extraordinary changes introduced in our profession in less than 10 years.

Beginning with the initial use of laparoscopic surgery in early 90's, development and improvement of instruments and equipment were so rapid . However the current evolution and modifications of the instruments and equipment is not that much active and effective as in the beginning, it continues in a decreasing frequency. Whereas the evolution of laparoscopic surgery during the past decade, in terms of variations in quality (complexity) of the procedures performed is much faster. The worldwide experience and training of surgeons with the use of adequate equipments play a significant role in the improvement of quality of the procedures. The laparoscopic approach is both dependent on the surgeons proficiency and quality of equipment.

DEVELOPMENTS OF INSTRUMENTS AND EQUIPMENTS: The latest major development and modifications of the instruments and equipments used in laparoscopy are as follows:

First trocar insertion

In laparoscopic surgery serious complications caused by the blind insertion of the first trocar still exist, even after the pneumoperitoneum is established by means of a Veress needle. Although some techniques to safely insert the first port have been developed and many surgeons advocate a minilaparatomy (open laparoscopy) to position the first port, this step still continues to be the source of complications and morbidities. As a result, trocars are still under modifications (pyramidal trocar, conical trocar, trocar with small cutting edge, trocar with optical view, trocar with dilating edge). The latest modifications of trocars with dilating edge seems to be the optimal solution for those problems without cutting tissue.

- It causes lesser bleeding in abdominal wall,
- It has the advantage of fixation of trocar to abdominal wall,
- It does not necessitate closure suture even if after 10 or 12 mm diameter.

Also disposable and reusable trocars have been produced and used to be safely positioned under visualization. On the other hand, open surgery is used as a first trocar insertion technique. But the dissection to insert the Hasson's trocar may be difficult and time consuming, especially in obese patients.

Ensuflation / gassless laparoscopy / hand assisted laparoscopy

- Although there exists metabolicly inert gasses like Helium, CO_2 is continued to be used widely and preferably.

- Gassless laparoscopy with using abdominal wall retractor is used strictly due to high rate of conversions to pneumoperitoneum.

- In special circumstances the hand assisted laparoscopic approach may be an additional useful technique, particularly as a valuable alternative to open surgical method in spite of its high traumatic effect regarding to pure laparoscopy.

Tissue division - dissection instruments and equipment / enforcement material

- Parallel to the increase of advance laparoscopic procedures, the instruments used in ablative and reconstructive surgery has developed such as pneumodissector, hydrodissection, various types of staplers such as 35 – 45 - 60 mm / 2.0 - 2.5 - 3.5 - 4.8 mm Endo-GIA cartridge, VCS stapler (reapproximate micro-clips). Also ultracision and ligasure as the source of energy for cutting and coagulation is accepted worldwide instead of electrical currency, without having the undesirable side effects. These energy sources and also bipolar electrocoter play an impulsive role for widely application of complex laparoscopic procedures.

- The mesh used for repair of defects is another developing, both the type of mesh (anatomic mesh, dual mesh, etc.) and mesh fixation material (endohernia, endotracher, endoanchor, tissue-cole) are still in progress for the best one.

Visual equipment with computer assistance / robots

- Vocally controlled manipulator of the laparoscopy (AESOP-Automated Endoscopic System for Optimal Positioning) makes it possible to implement some operations without the assistance of another surgeon ("solo-surgery" or "one man surgery"). Different types of fixating arms also decrease the need of assistance.

- The latest development in operating room is the installation of robots. However these robotic systems are strictly used due to their financial costs. But it is promising for the future both with "distance" (telesurgery) and "bed side" surgery, with the opportunity of three dimensional image without mirror effect and with the ergonomic superiority causing the surgeon to be less tired.

CONCLUSION: Surgical outcome and new designed instruments and equipment are in a very close relationship to achive the best results. For the development of laparoscopic surgery, we must keep our minds open to the future advances in science and technology and integrate them in our operative procedures. Also increasing the number and complexity of procedures motivate the designers for the new and modificated instruments.

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Robotic surgery: one year experience

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Many procedures are today performed by minimally invasive technique (laparoscopy, thoracoscopy, etc.), improving patient quality of life and outcomes. Anyhow laparoscopic technique requires a long learning curve because of the instruments have limited number of degrees of freedom, two-dimensional vision of the operating field, discomfort, fatigue and tremor after a long period.

We started our laparoscopic experience in 1991 performing cholecystectomy and herniorraphy (TAPP technique). Up today we have performed over 6.000 laparoscopic operations (cholecystectomy, appendectomy, colon resection, gastric resection, splenectomy, fundoplication, Heller myotomy, etc.).

From September 2002 we have in our Department the "Da Vinci Surgical System", an advanced robotic device: three-dimensional imaging (3-D) with a stable camera platform, it overcomes the limitation of laparoscopic instruments by endo-wrist technology, the surgeon works in an ergonomic and comfortable operating position. By this device we have performed over 60 operations; cholecystectomy was the starting operation to test and to take confidence with the robotic machine; fundoplicatio and Heller myotomy, colectomy and splenectomy, were the following operations performed.

Robotic surgery is a laparoscopic surgery; the surgeon and trocars dispositions are different, the installation time was initially longer but the median operative time after a few cases was lower and the surgeon operate easier with a comfortable position and optimal view. We think that some technological developments will be able to improve such device. We illustrate our starting experience.

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Telemedicine in education and trainining for laparoscopic surgery, EMISPHER project

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Education and training in laparoscopic surgery could not reach a standard and homogenious status as in genaral surgery, although 15 years passed from its beginning. Both young and senior surgeons had to take basic and advanced courses to learn laparoscopic surgery or they had to learn it by relation with expert surgeons in the beginning. Now laparoscopic surgery is a part of residency programs and training courses are mostly organized as advanced courses rather than basic ones.

Audio-visual educational materials (like video-tape, vcd, dvd), telemedicine applications and courses, conferences, congresses are the most important parts of today's education and training programs which varies from country to country. Teleconference and telesurgery are being used more and more in advanced courses and congresses. Basic ways of educational activities in telemedicine are teleteaching and telementoring. In surgical sciences, operations are shown and taught to the surgeons from distance places by using real time as well as interactive teletransmission. As a telementoring activities, the surgeon while performing an operation is supervised by a more experienced surgeon via visual and audio connection from a distance.

During the last four years, Istanbul University Continuing Medical Education and Research Center (ISTEM) has successfully using teleconferencing, teleassisting and telementoring applications at laparoscopic surgery congress and courses that have been continuously organized in Turkey for the past twelve years. Also, ISTEM is taken place in some international telemedicine activities like EMISPHER project (Euro-Mediterranean Internet-Satellite Platform for Health, Medical Education and Research) which mainly targeted Mediterranean Countries. The aim of this project is to provide a homogenious health and education platform around the Mediteranean Countries not only in laparoscopic surgery but also in other surgical and medical specialities. Such kind of activities with virtual universities and telemedicine are very effective for dissemination and increasing the level of knowledge.

30

Laparoscopic gastrectomy with Billroth II reconstruction

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The use of laparoscopic approach in the surgical treatment of various gastric conditions has several advantages by avoiding an upper abdominal incision. Our experience at the American University of Beirut Medical Center with seven patients who underwent laparoscopic gastrectomy supports the use of this approach. We present a case of 25 year old female with repeated vomiting and abdominal pain of 6 years duration. Patient had balloon dilatation for pyloric stenosis four times with mild improvement. Laparoscopic gastric resection with Billroth II reconstruction was performed in 1998. Technical details of the procedure are illustrated in a video presentation. Patient did very well with a five year follow-up.

Another patient, 25-year-old male presented with pyloric stenosis and had pyloric perforation following balloon dilatation was treated laparoscopically with gastrectomy and Billroth II reconstruction in 2001. He also did very well with 2 years follow-up.

Laparoscopic Gastrectomy with Billroth II reconstruction is feasible and further experience is needed to define the technical approach.

31

Palliative laparoscopic gastroenterostomy for unresectable tumors

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Greece

Gastroenterostomy is an established palliative method for palliation in patients with unresectable gastric, periampullary and pancreatic cancers with gastric outlet obstruction (GOO). A number of patients with advanced disease but without clinical manifestations of GOO will require a bypass procedure during the progress of the disease.

Although, open gastroenterostomy is not a major operation itself, the advanced disease state and the general health status of the patient result in high morbidity (25%) and mortality (8-17%). Alternatively, nonsurgical techniques such as laser application and self expanding endoprosthesis have been proposed but they are also associated with certain risks.

In the era of laparoscopic approach, some surgeons have explored the feasibility of performing laparoscopic gastroenterostomy for palliation with good results. A review of the available data in the current literature and the technique of laparoscopic gastroenterostomy are presented.

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Laparoscopic surgery for gastric cancer: indications and limitations

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Gastric cancer is still one of the important health problems because it is the most common cancer in Far East

Asian countries and the leading cause of cancer death in the world. The past decade has seen many advances in knowledge about gastric cancer. Notably, tumour biology and lymphatic spread are now better understood, and treatment by surgical and medical oncologist has become more standardised. Patients in eastern countries are mainly those with early cancers, where western patients are usually treated when the cancer is at an advanced stage. This difference might have contributed to confusion in histopathological classification of the disease, and made comparison of treatment results from the two regions difficult. Laparoscopic staging can achieve a 92% rate of detection for advanced gastric cancer, compared with only 58% with CT and 63% with endoscopic ultrasonography. Laparpscopic staging done by a skilled surgeon immediately before treatment surgery seems to be the best diagnostic tool

to guide decisions about surgical resection or palliative measures. In Japan, surgeons favour endoscopic mucosal resection, which is thought to have high curative potential and to avoid the need for further radical surgery; however such an approach should only be done if very accurate local staging has been achieved. Endoscopic mucosal resection is often impossible for lesions located at the gastric cardia or lesser curvatura, but these difficulties might be overcome by combining endoscopic and laparoscopic mucosal resection. Diagnostic laparoscopy for staging is effective and widely practiced, but gastric resections are mostly limited to malign lesions, whereas more advanced lesions are laparoscopically resected in only a few centers around the world. In the future, potential advances in the laparoscopic surgical treatment and diagnosis of gastric cancer could be achieved with identification of the lymphatic drainage basin by combined endoscopic and laparoscopic sentinel node procedure in T1b and T2 tumours, leading to limited lymhadnectomy in most patients and also laparoscopic surgery could widely be used for the treatment of gastric cancer around the world.

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Laparoscopic total gastrectomy

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Italy

Background: The use of laparoscopic surgery in the treatment of gastric cancer ha not yet met with widespread acceptance. This approach appears to have some valuable advantages for management of gastric cancer patients. The principle of treatment of gastric cancer is to perform a complete resection of the lesion with safe and appropriate procedures based on disease stage. The extent of gastric resection depends on the site and extent of the primary cancer; at the present there is no consensus about the optimal extent of lymph-node dissection. The hypothesis that extended (D2) lymph-node dissection leads to improved survival has not been confirmed in randomized trials but results from specialized centres and ongoing multi-institutional randomized trials indicate that D2 dissection, with preservation of the spleen and pancreas, can be performed with the same safety as a D1 dissection.

Methods: Between 2001 and August 2003 we performed a total of 35 laparoscopic procedures on patients affected with gastric carcinoma. All patients were staged preoperatively with US and CT scan.

Results: We performed twelve total gastrectomy, nine gastroresection, six subtotal gastrectomy, four partial gastrectomy and four degastrectomy. Total and subtotal laparoscopic gastrectomy with preservation of the spleen and pancreas and extended (D2) lymph-node dissection are our standard procedure. The major complication rate was 10.2% and the hospital mortality 5%. We performed only pure laparoscopic approach: after total or subtotal gastrectomy a Roux-en-Y esophago- gastrojejunostomy is commonly performed laparoscopically.

Conclusion: A definitive answer concerning the appropriate level of lymph-node dissection and the role of laparoscopic gastrectomy in the treatment of more advanced gastric cancer remains to be defined but laparoscopy can be a valuable tool in the decision-making process for these patients.

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Laporoscopic gastric banding, Lebanese experience

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Lebanon

Morbid obesity occurs in 2-5% of the population of Europe,Australia and the United States and is becoming more common.In Lebanon we have no exact data but it is estimated as 1-2%. Laparoscopic gastric band was launched as one method for weight reduction. A total of 98 patients underwent lap.banding between June 2000 &Feb.2003. Patients were selected with BMI greater than 35 and age between 18-57. They were very motivated and properly worked up before surgery. Two patients were lost to follow up after 3 months.We had 2 conversions to open. Complications were : 3 ports complications,2pouch dilatations,1abdominal collection and 1mal positioning of band and 2 gasroesophageal reflux. EWL was 62% after 2years In conclusion laparoscopic gastric banding is an acceptable way to treat morbid obesity but it needs close and long term follow up and good experience is the key for good outcome.

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Laparascopic gastric by-pass for morbid obesity

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Saudi Arabia

Morbid obesity is concerned as on of the major health problems in Saudi Arabia and the gulf region,recent statistics from the country main health institute reported male obesity(BMI >35 kg|m2) to be 16% and in female >24%. The main cause for the high level of obesity in the country is returned mainly to the sedentary type of life as well as lack of exercise which is considered as well part of the life stile, other factors like the hot whether and in door traditional type of life is not to be forgotten. Surgical treatment of obesity in the form of Laparoscopic gastric bypass has been started in our hospital with an excellent acceptance as well as excellent results (returning to an acceptable BMI within the first one year of the procedure),we report the outcome of our centre for the first 130 cases in the last 3 years with no mortality and < 5% morbidity.

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Vertical banded gastroplasty

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Vertical banded gastroplasty (VBG) was perfected over the past twenty years at the University of Iowa by bariatric surgery pioneer E.E. Mason, MD and at one time was the most commonly performed procedure for weight loss in the world. VBG is performed under general anesthesia, through an incision in the upper abdomen measuring several inches, and requires usually four or five days in the hospital postoperatively. A circular "window" is made through the stomach a few inches below the esophagus . A surgical stapler is then used to create a small vertical pouch by putting a row of staples from the window toward the esophagus. The pouch is carefully measured at the time of surgery and will hold about one tablespoon of solid food. Next, a polypropylene band is placed through the window, around the outlet of the pouch and secured to itself with stitches. The band controls the size of the outlet and keeps it from stretching. The pouch fills quickly and empties slowly with solid food,

producing a feeling of fullness. Over eating results in pain or vomiting. This restricts food intake. The disadvantage of VBG is it usually results in less weight loss than other procedures. It does not restrict intake of high calorie liquids (sweets) and the pouch can stretch with overeating. As a result 20% of people do not lose weight and only half of people lose at least 50% of their excess weight with a VBG. In the studies performed so far, laparoscopic vertical banded gastroplasty (LVBG) proved in no way superior to open surgery. This procedure can usually be performed as a 23 hour procedure with return to full activity in 7-10 days.). With the widespread of this procedure and the introduction of laparoscopic approach several complications are described in literature: gastroesophageal reflux, esophagitis, gastritis, gastric bleeding and perforations, prolonged vomit, dislocation of gastric ring, cholelithiasis, gastric fistulas, gastric stomal stenosis, dehiscence of vertical stomach staple line. Vertical banded gastroplasty is currently the standard method for surgical treatment of morbid adiposity. Worldwide, about 20.000 interventions are performed every year. LVBG can be performed safely and results in shorter postoperative stay than open VBG. With adherence to surgical technique , weight-loss is maintained at an adequate level. Complications after LVBG do not exceed open VBG. . In conclusion, laparoscopic VBG is technically feasible and can be safely performed.

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Bariatric surgery complications

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There are two groups of complications in bariatric surgical procedures;
1) Mechanic complications: depend on the operation technique, duration, experience of the surgeon and sufficiency of the equipment. With the introduction of eligible technique and improved surgical equipment these complication rates have been reduced.
2) Metabolic complications: result either from the comorbidities oh the morbid obese patients or from the metabolic deteriorations after the operation. Precise preoperative evaluation, selection of the appropriate patients and the appropriate procedures help to reduce these complication rates. Close follow-up of the patient and the preventing malnutrition are other contributing factors. Bariatric surgery is a procedure performed with low morbidity and mortality if done with proper preoperative evaluation, patient and technique selection, close follow-up by an experienced team.

EMERGENCY SURGERY

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Laparoscopic versus open appcndectomy early experience at salmaniya medical complex, Bahrain

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Bahrain

lnis study was conducted at the 960 -bed Salmaniya Medical Complex (SMC) -the largest public sponsored healthcare facility that provides secondary and tertiary care services to the people of Bahrain. The study was conducted during the first half of2001 , where data from 66 consecutive laparoscopic append~tomies (Lap Append) were compared with 64 consecutive open appendectomies (Open Append) conducted earlier at SMC. Data analysis indicated no statistically significant difference between the mean ages in the two groups, with 27.6 and 28.1 years for Lap Append and Open Append respectively. The aVbrage length ofstay at the hospital w~ 6.8 and 6.6 days for Lap Append and Open Appe!ld, respectively, with no statistically significant difference between

the two groups. There was statistically significant difference (a <0.05) in the . dumtion of symptoms was 5.3 days prior to surgery in Lap Append, compared to 1.7 days for Open Append. There was no statistically significant difterence in the dluation of the procedure between the two groups, with mean duration 74.2 minutes in Lap Append co'mpared to 63.9 minutes in Open Append. Pathology report was nonnal in 25.9% or IJap Append, compared to 8.8% in Open Append. There was statistically significant difference in the duration of the procedure in Lap Append wilh nom1al histopathological findings (61.9 minutes), compared to Lap Append with evidence ofpathological findings (79.4 minutes. The conversion mtio in the Lap Append in this series was 1.5%.

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Laparoscopic appendectomy

George Tziovaras

Greece

After the introduction and wide acceptance of laparoscopic cholecystectomy, most of the conventional procedures have been proven to be technically feasible by laparoscopy, during the last decade; the laparoscopic approach, however, is not always worthwhile. In the case of appendectomy, the standard approach is considered to he a minor operation, with practically no mortality, low morbidity, minor postoperative pain, short hospital stay and fast recovery; in other words, any additional benefits of laparoscopic appendectomy would have been difficult to establish. There are many prospective randomized trials comparing the two procedures with conflicting results. More useful information can be derived from meta-analysis of these randomised trials; it appears that laparoscopic appendectomy takes longer and results in significantly less postoperative pain and significantly lower incidence of wound infection but only marginally earlier return to normal activities. There is no statistically significant difference in terms of hospital stay and intraabdominal infection rates, although the later was found slightly higher for the laparoscopic group, in few trials. As to the cost analysis, the available data are inadequate; the open approach is cheaper than the laparoscopic one but the overall cost seems to be slightly lower for the laparoscopic group considering the time out of work. Other potential benefits from the laparoscopic approach arc the diagnostic advantage especially in female patients, the possibility of less intraperitoneal adhesions and better cosmetic result. In conclusion, there is evidence from the literature in favour of laparoscopic appendectomy; provided that local expertise is available the laparoscopic approach should be considered in patients with suspected appendicitis.

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Emergency laparoscopic surgery (appendectomy, repair of perforated duodenal ulcer)

Hashmet Kalbasi

Iran

Laparoscopy has both a diagnostic and therapeutic role in emergent situation. The use of diagnostic laparoscopy in patients with acute abdominal pain is not new and many studies have demonstrated an improvement in surgical decision making associated with its use particularly when the need for operation is uncertain. With the increased use of elective laparoscopy by general surgeon, there has been an associated increase in emergency laparoscopic surgery in therapeutic era . In addition to laparoscopic appendectomy, which has rapidly gained in popularity over the last few years, many other procedures such as repair of perforated duodenal ulcer are now being performed. In our clinical experience we have done about 125 cases of appendectomy and 10 cases of repair of perforated duodenal ulcer since 1994 and we have found both of these procedure safe, effective, technically feasible and reliable procedures.

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Laparoscopic myomectomy

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Laparoscopic myomectomy is the most debated issue amongst all the endoscopic gynecologic procedures. Laparoscopy has proven advantages when compared to laparotomy. All these advantages result from the relative small incisions used. After these operations analges'a requ'rement and hospital stay are less, and full recovery is fast. Especially complicated laparoscopic procedures have a longer duration compared to laparotomy and are expensive due to disposable equipment usage. The outcomes and quantitative data do not differ amongst the two procedures. There are no differences in terms of intraoperative or postoperative complications, adhesion formation, restoration of fertility and postoperative labor. Various methods of laparoscopic myomectomy have been defined. The extirpation of the myom from the uterus and abdomen by laparoscopy is classically known as laparoscopic myomectomy. In this method the muscle and serosa defects are repaired laparoscopically. The myom can be removed by marcelation, Douglas or minilaparotomy. Another common method is to repair the uterus by minilaparotomy after laparoscopic removal of the myom. This is called laparoscopy assisted myomectomy. Other procedures are laparoscopic ultraminilaparoscopic myomectomy, laparoscopically embolised myomectomy, laparoscopic myolysis and leiomyolysis. The indications for laparoscopic myomectomy are not different from those for laparotomy. As in laparotomy only symptomatic myom should be operated for restoration of fertility. Small and non-symptomatic myom should not be operated. Conditions for laparoscopic myomectomy generally depend on the properties of the myom. Conditions such as more than 3 myom, greater than 5 cm, deep intramural location and previous pelvic surgery complicate laparoscopic myomectomy. Laparoscopic myomectomy should not be performed if the equipment, the operation room are insufficient, or the surgeon is inexperienced. It is essential that the surgeon should be familiar with intraabdominal suture techniques. Preoperative examinations and preparations are similar with laparotomy. The use of preoperative analog is controversial. It is better to perform the operation in the follicular phase because it causes less adhesion formation. Big myom can be resected laparoscopically after embolisation, but the experience is not sufficient yet. Placing a manipulator in to the uterus during the operation is mandatory. The perts may be inserted higher than standart positions. Laparoscopic tribuson or electromagnetic marcelation are the two most important equipments helping laparoscopic myomectomy. Mechanic marcelation of a by myom may take too much time. There may be intraoperative and postoperative complications. Conversion rate to laparoyomy is between 2-30%. Technical diffuculty and hemorrage are major requirements. Conversion risk is higher in deep intramural located, greater than 5 cm myom. Postoperative complications are infection, abnormal scar tissue, adhesion formation and dehiscence of uterine muscle layer deving pregnancy or labor. These complications are similar to those of laparotomy. There are 6 cases in the literature reporting uterine muscle dehiscence. Mena adhesion rate is reported to bee 44% and adnexial adhesion rate as 26%. These rates are not different in randomised studies. Multiple lessions and deep intramural location raise cumulative recurence rates. Recurrence after laparoscopic myomectomy ranges between 12-44%. There are various studies on fertility after laparoscopic myomectomy. Pregnancy rates are about 50%. There is less data on myomectomy performed for infertility. It is hard to obtain a percentage because infertility is multifactorial. Advanced age, longer infertilit periods and presence of contributing factors all effect pregnancy rates. Although the operation time is longer, intraoperative and postoperative complication rates, analgesic requirement, hospital stay are less and recovery is faster in laparoscopic myomectomy. Fertility and adhesion formation do not seem to differ. Therefore in selected patients laparoscopic myomectomy should be the operation of choice.

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Laparoscopic hysterectomy: safety and prevention of complications

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Hysterectomy is one of the most common gynecologic operations. Approximately 500.000 - 600.000 hysterectomies are currently performed annually in the USA. Indications for hysterectomy are leiomyoma uteri, endometriosis, uterine prolapse, endometrial hyperplasia, gynecologic malignancy and other gynecologic disorders.

Most commonly performed hysterectomies for benign conditions are: Total abdominal hysterectomy, vaginal hysterectomy and laparoscopic hysterectomy. More than 80 % of hysterectomies in the U.K. are still performed by the classical abdominal route. In USA it is estimated that 70-80 % of the approximately 500.000 - 600.000 hysterectomies are performed by laparotomy. Vaginal hysterectomy should be performed when appropriate; however, many gynecologists do not feel comfortable with performing vaginal hysterectomy. Laparoscopic hysterectomy is an alternative to abdominal hysterectomy and is not indicated when vaginal hysterectomy can be performed.

Major complications of laparoscopic hysterectomy are: GIS injury, urinary system injury, vascular injury, early or late hemorrhage. These complications are significantly reduced with surgical experience. GIS injury accounts for 20-46% of all complications that occur at laparoscopy and only 35% of cases are detected at the time of the operation. The ureters may be injured during hysterectomy. The ureteral tracts should be checked in all cases but we do not recommend routine dissection of the ureters during hysterectomy.

Between 1990 and May 2003, nine hundred and eighteen (918) women underwent laparoscopic assisted vaginal hysterectomy (LAVH) or laparoscopic hysterectomy (LH). Most common indications for hysterectomy were leiomyoma, abnormal uterine bleeding and endometriosis. Laparoscopic hysterectomy was performed with the combination of bipolar forceps for hemostasis and CO2 laser for tissue division, vaporization and excision.The following steps were performed laparoscopically: The infundibulopelvic ligaments, fallopian tubes, round and utero-ovarian ligaments were dissected. The broad and cardinal ligaments were dissected and the bladder pulled down. The uterine vessels were coagulated and dissected. Anterior and posterior vaginal fornices (colpotomies) were opened using CO2 laser. Lower cardinal and uterosacral ligaments were clamped, divided and ligated vaginally. The uterus was removed through the vagina. Peritonization and the vaginal incision were sutured vaginally. When LAVH was performed, the uterine vessels were also clamped and ligated vaginally. The remaining steps were the same for LAVH and LH.

The total operating time ranged between 35-180 minutes, with an average of 55 minutes for LAVH and 65 minutes for LH. The mean hospital stay was 44 hours. The overall major complication rate was 0.76% (7/918). No ureteral or bladder injury occurred. Two bowel injuries occurred; 1 patient was repaired laparoscopically and the other vaginally. Re-laparoscopy was performed in one patient due to hemorrhage from the uterine artery pedicle. In two patients hemorrhage occurred from the vaginal vault and sutures were placed to control bleeding. Pneumomediastinum occurred in two patients possibly secondary to peritoneo-pleural communication. No major vascular injury or incisional hernia occurred. Conversion to laparotomy was performed in 12 patients; these were due to gynecologic cancer (6 cases), dense adhesions or frozen pelvis (4 cases) and underestimation of the uterine volume (2 cases). No conversion was necessary to treat a major complication.

In conclusion laparoscopic approach to hysterectomy provides all the advantages of both laparoscopic and vaginal surgery. Bipolar coagulation and CO2 laser surgery and is a relatively fast and safe technique when performing LAVH and LH. Conversion to laparotomy and major complication rates in our study were detected to be relatively low.

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Laparoscopic management of ectopic pregnancy

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The most comprehensive data available on ectopic rates show a significant increase in the number of ectopic pregnancies during the past 20 years.

Additionally, ectopic pregnancy remains one of the most common causes of pregnancy related deaths. Following an ectopic pregnancy there is a 7- to 13- fold increase in the risk of a subsequent ectopic pregnancy. The classical surgical approach for an ectopic pregnancy is by open laparotomy. However, laparoscopic approach seems to be superior to laparotomy in terms of recovery from surgery and subsequent optimal outcome of future pregnancies although it is related with a higher risk of persisting trophoblastic tissue. Salpingotomy is the procedure of choice when the patient has an unruptured ectopic pregnancy with the other tube absent or damaged. Salpingectomy offers a similar intrauterine pregnancy rate with a lower risk of persisting trophoblastic tissue and subsequent

repeat ectopic. In the present study we present our data from the cases of ectopic pregnancies that were managed laparoscopically in our centre over the past

four years.

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Laparoscopic treatment of rectovaginal endometriosis

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Peritoneal endometriosis, ovarian endometriosis and adenomyotic nodules are three different entities. Rectovaginal endometriosis or deep infiltrating, retroperitoneal endometriosis is considered as a special entity of endometriosis with respect to the histological characteristics.

The nodules resemble adenomyotic foci: contains glands, stroma, and muscle cells. The nodule may be highly sclerotic and inflammatory; therefore dissection from adjacent organs may be very difficult. Pain is correlated with the depth of infiltration. These lesions may cause bowel or ureteral obstruction. Unless very severe and extensive, deep endometriosis may not be recognized during examination and laparoscopy which may lead to non-recognition or underdiagnosis. In the 1990's, deep endometriosis has been increasingly diagnosed during laparoscopic surgery. However, underdiagnosis of deep endometriosis continues to be a problem. Preoperative work-up includes rectovaginal examination during menstrual period, pelvic and transrectal ultrasonography, pelvic MRI, double contrast enema, IVP, rectosigmoidoscopy, CA-125

Treatment of rectovaginal nodules: Medical treatment alone is insufficient with high recurrence rates. Hormonal treatment is efficient with respect to pain (progestins or GnRH-a), however, there is high recurrence of pain when administration ceases. Surgery is the primary treatment for rectovaginal nodules. Radical surgery is the preferred treatment; all nodules should be completely removed. Preoperative treatment with GnRH-agonists seems to facilitate operation and reduce recurrence rates.

With regard to the route of surgery, the patient's benefit must be the primary concern and the surgeon should prefer the surgical technique that he is most experienced in. The is no difference between LT vs. LS. If suspicion of gross distortion of the ureter is present, pre-operative ureteral catheterization is recommended. Complete excision has a recurrence rate of less than 1%, although some 20% of women experience persistent or recurrent pain. Laparoscopic removal of rectovaginal adenomyotic nodule includes:

1. Lateral edges of the nodule are dissected to free the nodule.
2. Free the nodule from the ureter, uterine artery and spinosacral ligament (if necessary)

3. Posterior aspect of the nodule is dissected from the rectum, until the rectum is completely liberated.

4. Liberation of the nodule from posterior vagina and cervix.

5. Extirpation of the nodule.

6. Reparation of the posterior vaginal wall and rectum if necessary.

Between 1990-May 2003, 57 cases of rectovaginal nodule were treated by laparoscopically. Among 1023 endometriosis cases, the incidence of rectovaginal nodule was 5.6% (among 1023 endometriosis patients). Laparoscopic removal of the nodule was performed in 13 cases; removal of the nodule with posterior vaginal fornix was performed in 40 cases, laparoscopic assisted rectosigmoidectomy was performed in 2 cases and laparoscopic assisted trans-anal nodule excision was performed in 2 cases. Rectal sutures were placed in 9 cases (15.7 %). No major complication occurred during laparoscopic rectovaginal nodule surgery. In one patient vesical atonia developed postoperatively.

Laparoscopic excision of rectovaginal nodules is one of the most difficult operations in laparoscopic surgery. Complete excision of the nodule should be performed. The surgeon must be experienced in advanced laparoscopic surgery, colorectal surgery, dissection and repair of the ureter if required. Therefore, this operation may require a team approach.

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Hysterescopic findings of tamoxifen treated breast cancer patients

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The risk of endometrial cancer in breast cancer patients is 1.3- 2 times higher than the general population due to common etiological factors(1). These common etiological factors are endocrine in origin, and estrogen is effective in the development of both diseases. Elevated estrogen levels stimulate epithelial growth and induce progesterone receptor expression in the endometrial tissue(1). Tamoxifen, a synthetic nonsteroidal antiestrogen structurally similar to diethylstilbestrol, has been widely used as adjuvant therapy in postmenopausal women with estrogen receptor-positive breast cancer since 1978 (1). The effect of tamoxifen on the endometrium varies with the ambient estradiol concentration in that it acts as an estrogen agonist in postmenopausal women in whom the estrogen level is lower(2). It is well-established that tamoxifen (TMX), which has been accepted to be carcinogenic in 1996, increases the risk of endometrial cancer(3). Bonadona stated that the risk of endometrium cancer risk increases 1.43 times each year and after fourth year the risk increases more. Endometrium cancer detected in patients with TMX usage in in advanced stage and has worst prognosis.

Despite the high risk of endometrial cancer that these patients are faced with, there is no accepted protocol for endometrial surveillance. ACOG recommends annual gynecologic examinations including a Papanicolau smear, and endometrial biopsy in case vaginal bleeding occurs, while in Europe yearly gynecologic examinations are recommended after 2 or 3 years of TMX treatment(1). Selection of asymptomatic patients who need an invasive procedure constitutes the main problem. During follow-up, transvaginal ultrasonography (TVUS) is the most frequently used imaging technique, and sonographic findings often determine the need for further invasive procedures. However, the drug may increase the number of unnecessary invasive procedures by causing confusing, bizarre sonografic images (3).

There is also controversy as to which procedure should be applied since TMX may cause different types of lesions in different parts of the same endometrial cavity due to both agonistic and antagonistic actions(4). Therefore, in TMX-treated patients some endometrial pathologies can be easily missed when blind methods such as D&C or pipelle are used. Hysteroscopy which makes visually directed biopsies possible is regarded as an ideal method, however, there are multiple trials demonstrating that even hysteroscopy can miss endometrial pathologies including cancer(5,6). At the present time, there is no consensus on the role of hysteroscopy in the follow-up of asymptomatic patients.

It is obvious that especially TMX-using asymptomatic breast cancer patients pose a serious problem for gynecologists. The aim of this session is to investigate the relationship between duration of TMX use and endometrial pathologies in TMX-treated patients, to discuss the role of TVUS and hysteroscopy in the follow-up of these patients, and to determine the timing of hysteroscopy in asymptomatic patients.

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Office hysteroscopic adhesiolysis

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Objective: To assess the safety and efficacy of office hysteroscopic adhesiolysis in patients with intrauterine synechiae, compared with operative method.

Design: Retrospective clinical trial

Settings: University Hospital

Methods: Operative office hysteroscopy were performed to twenty-six patients with Bettochi type office hysteroscope (3mm) in normal saline as distension fluid between January 2002 and February 2003 for adhesiolysis whose diagnosis were confirmed by hysterosalpingography. In all cases adhesiolysis were performed by hysteroscopic scissor at the same session. Three of all cases had amenorrhea complains after curettage (severe adhesions) and twenty-three had recurrent pregnacy loss or infertility resulting from intrauterine adhesions. Adhesiolysis procedure were performed to severe adhesion cases by the guidance of a transabdominal ultrasound.

Results: The adhesiolysis was successful in all the twenty-two (84%) of cases with 7 (30%) subsequent pregnancies to date and partially success were obtained in four (15%) cases. One woman with severe adhesion had to be re-operated for complete adhesiolysis.

Conclusion: When compared with operative hysteroscopy the advantages of office procedure for adhesiolysis are the, no necessity for anesthesia and the use of normal saline as distension fluid which decreases the pre and postoperative complications and stay of hospital. Office hysteroscopic adhesiolysis is more safer, easy to use and comfortable procedure for restoring the normal menstrual pattern and fertility comparison to operative method.

LAPAROSCOPIC UROLOGY

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Transperitoneal laparoscopic nephrectomy

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OBJECTIVE: To report our experience with transperitoneal laparoscopic nephrectomy.

MATERIALS AND METHODS: A total of 10 patients underwent transperitoneal laparoscopic nephrectomy at our institution. Simple nephrectomy was performed in 2 patients with non-functioning kidneys, and radical nephrectomy was performed in the remaining 8 patients due to the presence of a kidney tumour. The mean follow-up time was 6 months (range 1- 10).

RESULTS: All cases were performed successfully. One patient with a right kidney tumour was converted to open surgery. The specimen was extracted intact in all patients using an Endocatch bag. Histopathology did not revealed any positive surgical margin in the patients with kidney tumour (mean tumour size 6.5cm). Distant metastases involving the lung occurred in one patient during the follow up period.

CONCLUSION: Laparoscopic nephrectomy appears to be an effective minimally invasive treatment modality for patients with the need for a nephrectomy for cases with benign or malignant aetiology.

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Laparoscopic training in piglets

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Laparoscopic procedures have been used more frequently in urology recently and learning curve is much more longer than other usual surgical procedures. It is well known that gaining laparoscopic skills and experience on the patient is very difficult and sometimes may be dangerous. Every year a number of new training courses is being announced. Unfortunately these courses are very expensive and some of them have a long waiting list. Working on animals or cadavers is much more expensive. We have founded our own simple animal laboratory for laparoscopy training. In this video; equipment of our laboratory and laparoscopic simple nephrectomy on a piglet are presented.

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Laparoscopic treatment for ureteropelvic junction obstruction

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OBJECTIVES: To present our experience with laparoscopic treatment for ureteropelvic junction obstruction at our institution.

METHODS: Between September 2002 and June 2003, 7 patients (4 women and 3 men), with a mean age of 43.5 years (range 32 to 67), underwent transperitoneal laparoscopic treatment for ureteropelvic junction obstruction. Preoperatively, patients had a diuretic renal scan to confirm the presence of obstruction. Helical computed tomography was also performed preoperatively to assess for the presence or not of a crossing vessel. The renal scan was also repeated postoperatively to document the relief of obstruction.

RESULTS: Helical computed tomography detected the presence of crossing vessels in all patients, and thus Anderson-Hynes pyeloplasty was performed. The average operative time was 190 minutes (range 140 to 250). The blood loss was minimal, and no open conversions were required. No patient was hospitalised for more than 3 days postoperatively. Patency of the collecting system was achieved in all cases and maintained thereafter during the follow up period.

CONCLUSIONS: Laparoscopic pyeloplasty, even though technically demanding, is an efficient and safe procedure for the management of ureteropelvic junction obstruction.

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Double J ureteral stent after PCNL: reduced morbidity and shorter hospital stay

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Introduction: We have placed double J internal ureteral stents at the end of Percutaneous Nephrolithotomies (PCNL) with the intent of removing earlier the Nephrostomy tube (NT) and thus reducing post operative discomfort and hospital stay. We reviewed our experience to assess the efficacy and safety of this technique.

Materials and Methods: During a 2-year period, PCNL was performed in 112 patients for Staghorn stones (48), complex pelvic and caliceal stones (60) and stones in caliceal diverticulae (4). Nephrostomy tube was the only means of drainage in 43 patients. A double J ureteral stent was put in an antegrade fashion in 69 patients (66 with NT, 3 without NT). It was removed 2 weeks later under local anesthesia.

Results: Patients with double J stents had their NT removed after a mean interval of 18 hours (12-36), and their mean hospital stay was 2.2 days (2-6). One patient required reintervention for Double J stent Readjustment. The 3 patients with no NT had no complications. For the 43 patients without double J stents, the NT was removed after a mean interval of 5.2 days (3-17). 9/43 patients required reintervention for double J placement because of Urinoma (2) and persistent extravasation (7). The mean hospital stay for this group was 6.1 days (4-14).

Conclusion: Double J placement after PCNL reduces the morbidity of the procedure. It allows earlier removal of the nephrostomy tube and shortens significantly the hospital stay.

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Laparoscopic radical prostatectomy - LEBANESE, experience in 28 cases

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Between January 2002 and August 2003, 28 laparoscopic radical prostatectomies were performed by the same surgeon assisted by a first year resident. The mean age was 60 years (45-68). All patients had clinically confined tumors, 2 patients had previous TURP. Mean PSA level was 4.8 ng ml (2,5-8). Biopsy Gleason score was ≤ 7.

A trans-peritoneal combined with a retropubic approach was used. In most cases (78%) a pelvic lymphadenectomy in conjunction with frozen section (pN0) was part of the procedure. The prostate was removed via a 3 cm muscle splitting Mc Burney incision. Urethrovesical anastomosis was performed with interrupted sutures. Mean prostate volume 35 g (22.5 - 69).

Results: All 27 LRP cases were completed laparoscopically only.one patient required open conversion (the second in the series). Median blood loss was 300cc (range 150 to 1400), and blood transfusions were given to two patients intraoperatively. The median operative time was 336 minutes (198-480). Mean catheterization time was of 7 (4-10) days. Mean hospital stay was 5(4-7) days. No intraoperative complications were seen. Early continence rate 8 days after removal of the Foley catheter was 60% (in young patients), 85% at 3 months and 90% at 6 months. Surgical margins were all negative at final pathology, sexual potency was unaltered in all patients.

Although it is a technically difficult surgical procedure that must be performed in special centers, LPR is feasible and reproducible in the hands of trained laparoscopic urologist. LRP provides a good alternative to open surgery with excellent oncological control and satisfactory functional results on post-operative continence and sexual life. The operating time is only slightly longer than open surgery, the video-assistance with 5-fold magnification enabled us to improve the dissecting techniques of open surgery (at the apex, at the neurovascular bundles, at the bladder neck, at the cranial pedicules). The endoscopic suturing technique with completion of the anastomosis under endoscopic vision improved the quality of the anastomosis.

Laparoscopic radical prostatectomy (LRP) is a minimal invasive alternative to standard open retropubic radical prostatectomy in case of localized prostate cancer.

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Technique of extraperitoneal laparoscopic radical prostatectomy

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The development of proficiency in laparoscopic techniques and instrumentation has paved the way for its application in complex urologic procedures, such as radical prostatectomy. Since the first description of laparoscopic radical prostatectomy in the early 1990s the technique has undergone significant technical modifications. Transperitoneal laparoscopic radical prostatectomy is now a standard procedure and can be used successfully and reproducibly, providing results comparable with those of "open" retropubic procedure. Despite many advantages, transperitoneal laparoscopy is associated with potential intraperitoneal complications. Limitations inherent to the transperitoneal route have led to the development of an extraperitoneal approach for radical prostatectomy. The extraperitoneal approach provides a safe and minimally invasive technique to various urological procedures, including radical prostatectomy. This technical improvement completely obviates intra-abdominal complications. Extraperitoneal laparoscopic radical prostatectomy combines the advantages of minimally invasive laparoscopy and the open retropubic approach. Herein, we review the surgical technique of extraperitoneal laparoscopic radical prostatectomy, and focus on the indications, contraindications and outcomes.

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Laparoscopic radical prostatectomy

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INTRODUCTION: Prostate cancer ia a common urological disease. Retropubic radical prostatectomy has been the most preferred treatment for localized

prostatic carcinoma. However, increased morbidity and long convalescence time are factors influencing the outcome of the procedure.

MATERIALS AND METHODS : We present our experience in treating prostate cancer laparoscopically. The operative steps as well as the challenging

laparoscopic approach are discussed extensively.

CONCLUSION: The role of laparoscopy in Urology is expanding and localized prostate cancer is a disease which can be treated successfully with the laparoscopic approach.

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Minilaparoscopic varicocelectomy

Raghid El Khoury

Treatment of varicocele is a common procedure in Lebanon

The concept of its treatment is to block the spermatic vein. It is done mostly by conventional open surgery.

In the last decade two new approaches were used. Percutaneous retrograde sclerotherapy and laparoscopy using the 10 and 5 mm trocars and the (ligaclip).

The difference between these 3 techniques is in the post-operative period and a cost of each procedure.

In this video film an adapted laparoscopy technique is presented, using a 2mm non-disposable instruments with a bipolar forceps instead of the liga clip.

The advantages of this technique are:

- Laparoscopy permits a better viewing of the small veins often adherent to the artery. These veins are hardly visible by the naked eye.

- With this procedure we can explore the abdomen, have more precise dissection without having to suture or clip the vein

- Operating time is shorter than the conventional open surgery

- This technique can be easily done as a same day surgery; the patient will not need any analgesic drugs and will quickly return to his daily activities.

- The cost and the outcome of the procedure are comparable to that of open surgery.

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Supracostal renal access in percutaneous nephrolithotomy: how to make it safe

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Introduction: Percutaneous approach to the upper pole of the kidney provides better access to most of the intrarenal collecting system, the UPJ and proximal ureter. Spracostal percutaneous renal access has been associated , however, with a higher complication rates restricting its use so far. We came up with some technical modifications for a safer supracostal puncture and evaluated the results prospectively.

Materials and Methods: 53 patients with complex renal stones had 56 supracostal punctures for PCNL. With the patient in prone position and the system opacified, the decision of a supracostal approach was made in order to have a direct untilted access to the tip of the desired calix. A more lateral puncture site was chosen by tilting the C-Arm 35-40 degrees from vertical, the Bull's eye phenomenon achieved with the access needle. Then the Anesthesiologist was asked to take the patient under manual respiration and maintain full expiration while the needle is introduced. Acute dilation was performed with the Nephromax Balloon and Amplatz sheath placed as usual. There were 24 staghorn stones, 22 complex ones; 4 in caliceal diverticulae and 3 Endopyelotomies. A double J stent was placed at the end of the procedure.

Results: 7 punctures were above 11th rib and 49 above the 12th. The mean OR time was 100 min. 2 patients only required transfusion (3.7%) of one unit of blood and the mean drop of Hemoglobin for all patients was 1.6%. There were no intra or post-operative pneumo or hemothorax and no chest tube was required. Only 8/53 patients required a mean of 12 mg of Morphine in the immediate post-operative period. The nephrostomy tube was removed 18 hours later and the mean hospital stay was 2.4 days (2-6). The stone free rate was 84%.

Conclusion: A direct percutaneous access to the tip of an upper pole or the middle pole calix of a high riding kidney can be achieved safely by a more lateral supracostal puncture realized under full expiration.

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Transurethral prostate surgery using bipolar gyrus device (plasmakinetic) in men with benign prostatic hyperplasia

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Refinements in technology have brought urologists closer to the goal of minimally invasive procedures that are safe and approach the efficacy of TURP, which is still considered to gold standard in surgical management of BPH. Recently, transurethral resection and vaporization with bipolar energy (PlasmaKinetic) has been introduced as a technical modification of TURP, and in this study we analyzed our long-term results with this technique.

During a 3-year period, a total of 110 men with BPH, having failed medial therapy and/or presenting with acute urinary retention, underwent transurethral prostate surgery using bipolar energy (PlasmaKinetic) under saline irrigation. Men with suspected prostate cancer, confirmed by digital rectal examination and serum PSA levels, or neurogenic bladder (eg diabetics) were not enrolled to the study. Preoperatively, I-PSS symptom score, uroflowmetry, and ultrasonography were obtained in all cases. Postoperatively, patients were seen at 1st, 6th, and 12th months with the above studies obtained at follow-up.

The mean age of men enrolled to the study was 65.7+7.1 (range: 51-78) years, and their mean prostate volume was 51.1+26.3 (range: 30-120) gram. The mean operation time was 40.6+12.0 (range: 30-120) minutes. Patients were postoperatively catheterized for a mean period of 2.1+0.7 (range: 2-5) days. The mean I-PSS declined from 22.5+3.1 preoperatively to 7.2+1.3 at 6 months, and to 7.9+1.5 at 12 months. The mean maximal flow rate increased from 5.3+3.7 ml/sec preoperatively to 18.3+3.5 ml/sec at 6 months, and to 17.2+3.9 ml/sec at 12 months. Severe irritative urinary symptoms were the most commonly observed complaints following PlasmaKinetic surgery, and were encountered in 9 (8.1%) cases, who were managed medically in 7, and needed prolonged recatheterization in 2. Bleeding necessitating blood transfusion or severe serum electrolyte imbalance were not observed in any case. Recatheterization was necessary in a total of 7 cases (6.3%) in the early postoperative period. During a mean follow-up of 18.3+6.7 (range: 12-36) months, urethral stricture formation was observed in 5 (4.5%) cases, while 4 (3.6%) men needed reoperation due to persisting obstructing symptoms. Urinary incontinence was not observed in any case during follow-up.

Transurethral surgery with Gyrus device (PlasmaKinetic) seems to be promising endoscopic minimally invasive technique for prostatic tissue removal with shorter operation, catheterization and hospitalization times. Our results also support its efficacy and durability.

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Percutaneous nephrolithotomy in the surgical management of kidney stones

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Percutaneous nephrolithotomy (PCNL) has dramatically diminished the need for open surgery in the management of upper urinary tract stones. In this report, we assessed our initial experience with PCNL.

Between October 2002 and August 2003, a total of 98 patients with renal stones, and 2 patients with stones in the upper ureter underwent PCNL. Surgical procedures were performed with patients in prone positions on urological table under C-armed flouroscopy (Siemens SireMobile). Percutaneous renal access was done with an 18 G access needle, and guide wires (Sensor guide wire) were placed appropriately. The tract was dilated to 30 Fr with a balloon dilatator (Nephromax) and 30 Fr sheet was placed. Percutaneous stone disintegration and removal was performed with a 26 Fr rigid nephroscope and pneumatic lithotriptor (Vibrolith, Elmed). A 14 Fr nephrostomy tube was placed at the end of the procedure.

Overall, the mean age of patients enrolled to the study was 41.1+13.5 years (range: 18-75 years). There were 46 women and 54 men. The body mass index was >25 in a total of 16 patients. The size of stones treated ranged between 2 to 20 cm2. An attempt for ESWL treatment had failed in 13 cases. A total of 17 cases had a previous history of open renal surgery. Overall, the preparation and positioning period ranged between 30 to 45 minutes, and the mean percutaneous procedure time was 53.4+32.5 (range: 25-250) minutes. An overall success rate of 89% was achieved in the whole group. Complete stone removal was achieved in 59%, and clinically insignificant residual fragments were observed in 30%. As an auxillary treatment, SWL was performed in 6 cases, and Re-PCNL in 10 patients. Severe complications (bleeding indicating termination of the procedure, hydrothorax, perinephritic abscess) were observed in 3 cases. None of the procedures were converted to open surgery.

PCNL with highly satisfactory success rates up to 90%, and considerable complication rates, is the treatment of choice in large upper urinary tract stones.

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Retroperitoneal and transperitoneal nephrectomy in benign kidney disease

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Introduction: Laparoscopic procedures gain its places in some kind of surgery in last decade also in contemporary urology practise. The aim of the study is to evaluate the results of the laparoscopic procedures on benign indications.

Material and Methods: Between October 2000 and August 2003, 19 laparoscopic nephrectomy and 1 laparoscopic right üreterolitotomy which was performed by the same surgical team were evaluated in terms of efficacy, safety and possible complications of the technique.

Results: Mean age of the patients was 41(14-68 years) and female-male ratio was 12/8. Preoperative diagnosis were atrophic kidney with kidney stones in 7 patients, atrophic kidney in 9 patients, hydronephrosis in 3 patients, lower ureteral stone in 1 patient. Right nephrectomy was performed in 11 patients and left nephrectomy was performed in 8 patients, right ureterolitotomy was performed in 1 patient. Nephrectomy was performed retroperitonealy (12 patients) or transperitonealy (8 patients). Mean duration of operation time was 120 minutes (75 - 165 minutes). There was one conservation to open surgery due to adherence of penetran trauma. Drain was placed into right ureterolitotomy. Mean hospitalization time was 2 days (1 – 4 days). Six patients need to require analgesia and treated with dolantin . There was no peroperative or postoperative complication detected in any patient.

Conclusion: Success of the laparoscopic procedures related to teaching curve. By the time, decreasing duration of operation, decreasing complication rate, less analgesic consumption, shorter convalescence, laporoscopic procedures is efficiancy, safety, minimal invasive tecnique.

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Video-assisted thoracoscopy in mediastinal diseases

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AIMS: The present study was undertaken to specifically evaluate the role of video-assisted thoracoscopy (VAT) in management of diseases of mediastinum.

METHODS: I retrospectively reviewed clinical files of all patients undergoing VAT for mediastinal disease in a single thoracic surgery department in a 13-year period. Indications for VAT, type of operation, need of conversion to open surgery, mortality or major morbidity were recorded.

RESULTS: Two-hundred-eleven VAT were performed in patients with primary mediastinal diseases or mediastinal involvement by lung tumors. They represent 20.3% of all VAT (n=1040) performed in the same period. Indications VAT for mediastinal disease were: treatment of mediastinal diseases, n=108 (51.2 %); mediastinal staging of lung cancer, n=73 (34.6%); diagnosis of mediastinal masses, n=30 (14.2%). Therapeutic VAT included treatment of mediastinal cysts, n=27; neurogenic tumors , n=18; thymus surgery, n=16; pericardial windows, n=11; exeresis of malignant tumors, n=8; chylothorax, n=7; oesophageal leyomioma, n=7; miscellaneous, n=14. Conversion to open surgery was never necessary in case of staging of lung cancer and staging was always achieved. Histological diagnosis was always obtained in patients undergoing VAT for diagnostic purposes and conversion was performed in only one case. Among the 108 therapeutic VAT, 30 needed also of minimal (n=14) or formal (n=16) open approach. Conversion was never necessary for complications of VAT. Neither mortality nor major complication occurred.

CONCLUSIONS: VAT provided fully satisfactory results in the management of patients with mediastinal diseases. It is an excellent tool for invasive staging of lung cancer. Complete removal of mediastinal tumors is in most instances possible and, when conversion to an open approach is indicated, a limited thoracotomy under video-assistance is often satisfactory. In the field of invasive diagnosis of mediastinum, VAT has excellent characteristics of diagnostic accuracy.

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Video-assisted thoracoscopic thymectomy for myasthenia gravis: single institution experience

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Thymectomy in conjunction with medical treatment, is an established therapy in the management of generalized myasthenia gravis (MG). The optimal surgical management of thymectomy remains controversial. Video-assisted thoracoscopic thymectomy (VATT) was introduced in 1992 as a minimally invasive technique alternative to more radical approaches. Several surgical approaches to thymectomy exists. These approaches are: median sternotomy, transcervical, partial sternotomy (through upper or lower sternum), Transcervical and median sternoto-

my (T-incision), and VATT. The most commonly employed procedure is median sternotomy. The advantages of VATT techniqueis the cosmetically acceptable incisions that can all be kept within inconspicuous aeras of the anatomy and a safer and easier postoperative period.

Our department has successfully employed 25 VATT related to MG from July 2002 on. Two male and 23 female patients with an avarage age of 29 (13 - 51 years) were operated. The Osserman and Genkins classification revealed that 18 patients (72%)were in stage 2 a and 7 patients (28%) were in stage 2 b. The preoperative medication was consisted of pyridostigmine bromide and corticosteroids with an avarage of 217.14 +/- 101.2 mg and 15.2 +/- 20.4 mg respectively. Seven patients had a cervical incision in addition to thoracoscopic resection. The amount of chest tube drainage was 202.8 ml. The mean length of chest tube duration and postoperative hospital stay was 31.9 +/- 27 hours and 2.6 days +/- 1.2 days respectively. Complication was noticed in 1 patient (4%) with contrlatral pneumothorax.

The presentation consists of the present experience of the authors on preoperative management, intraoperative management, surgical considerations and techniques.

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VATS (Video-Assisted Thoracic Surgery) resection for lung cancer

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VATS is a relatively new technology that is being used abundantly for diagnostic and therapeutic purposes in thoracic diseases. However its use in lung cancer surgery is still evolving and controversial. Initially, simple wedge resections were done to diagnose small peripheric nodules, but currently a VATS lobectomy has become almost a routine procedure for small peripheral lung cancers. Published studies demonstrate several advantages of VATS over a standard posterolateral thoracotomy.

First of all a minimally invasive approach causes less inflammatory reaction. Postoperative C-reactive protein and interlukin (IL)-6, IL-8 and IL-10 levels were less in VATS groups of patients versus patients who underwent thoracotomy.1,2 Leaver et al showed that the number of circulating T (CD4) cells was higher at postoperative day 2 following VATS.3 Natural killer cells were also higher when compared to the thoracotomy group of patients at postoperative day 7.3

Significant improvements have been reported in postoperative acute and chronic pain. Landreneau reported less pain in the first 3 weeks following surgery in the VATS group of patients when compared to the thoracotomy group.4 This improvement in pain decreases the length of hospital stay. The avoidance of rib spreading in VATS is critical in decreasing perioperative pain and thus an improved recovery with decreased length of hospital stay.5 The preservation of chest musculature also improves early and late shoulder dysfunction in patients undergoing a VATS procedure which results in a faster recovery and early return to work after the procedure.6 In many studies, changes in FEV1 and FVC have been minimal following a VATS approach compared to a standard posterolateral thoracotomy.7 All of these data suggest a better overall outcome using a VATS approach.

However, there are still issues that need to be clarified. Especially the long-term survival and local recurrence data is important. Kaseda7, McKenna8 and recently Walker9 showed that survival of lung cancer following a VATS resection was identical to an open approach. Lymph node dissection can be performed during a VATS approach and locoregional recurrence is low. Initial results of a phase III intergroup protocol in USA have shown that VATS is feasible in lung cancer surgery.

Training residents and junior surgeons for a VATS anatomic lung resection is another issue which can be overcome by animal laboratory and computer-based simulations. The best training approach would be evolving skills from wedge resection to a video-assisted lobectomy via a small thoracotomy and finally to a non-rib spreading lobectomy. Lack of three-dimensional vision and staplers without multiple degrees of freedom are also issues that need to be resolved.

In conclusion, use of VATS in lung cancer surgery revealed promising results in pain, pulmonary function and hospital stay. The survival and local recurrence data needs to be reinforced with randomized studies.

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THORACIC SURGERY

01

Our experience of video-assisted thoracoscopic surgery (vats): analysis of 628 cases

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As a result of the development of endoscopic equipment and experience; VATS has been an important choice for the diagnosis and treatment of thoracic diseases. In this study, we evaluated retrospectively the indications, morbidity and mortality of VATS on 628 patients and also discussed the reasons of convertion to thoracotomy among them.

Between November 1993 and December 2002, VATS was performed in 628 patients including 426(67.8%) men, 202(32.2%) women with a median age 43.9 years (ranging from 8 to 84 years). The indications of VATS were following; undiagnosed pleural effusion: 310 (49.4%), pulmonary nodule or mass: 84(13.4%), empyema: 72(11.5%), staging of lung cancer: 63(10%), mediastinal mass or cysts: 22(3.5%), diffuse interstitial lung disease: 21(3.3%), hydatid cyst: 19(3%), bullous lung disease : 18(2.9%) and others (recurrent or persistant pneumothorax, organized hemothorax, pericardial effusion and foreign body): 19(3%). VATS was converted to thoracotomy because of strict adhesions in 61(9.7%) cases, the aim of decortication in 58(9.2%) and hemorrhage as a complication in 2(0.3%). There was no mortality. The morbidity rate was 4.8%(30/628) and prolonged air leak was the most common complication.

VATS can be easily performed with minimal morbidity for the diagnostic and also therapeutic purpose of thoracic diseases. However, it shouldn't be forgetten that the right indication and selection of suitable cases are very important to obtain succesful results for VATS. The ratio of convertion to thoracotomy, depends on not only difficulty to apply this procedure because of adhesions undetected previously on radyographic studies but also experience about VATS.

02

Novel technique for division of pulmonary vessels

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Objective: LigaSure (Valleylab, Tyco Healthcare, Boulder, CO) is a novel instrument with widespread use in general surgery for vessel sealing. It achieves permanent vessel wall fusion by denaturing collagen and elastin. We investigated the efficacy and safety of LigaSure in pulmonary vessels.

Methods: Seven sheep were anesthetized and endotracheally intubated. A right upper lobectomy was performed (5 open, 2 thoracoscopic). Diameters of vessels were measured intraoperatively. In six, the vessels to the right

upper lobe were divided with Liga Sure and in one with silk sutures (open). The artery and vein stumps in the lobectomy specimen were sampled following lung resection (early samples). The animals were euthanized at 7 days and mediastinal stumps were sampled (late samples). Conventional histology was performed.

Results: Median diameter of pulmonary arteries (n=9) divided was 6 mm (3-7) and of veins (n=11) was 4 mm (2-6). No early (during surgery) or late (7 days) disruption was seen in any of the artery or vein stumps divided with LigaSure. Histology of early samples showed thermal injury. Late samples showed necrosis, thrombus formation without inflammation or granulation tissue. There was transition to normal vascular tissue within 5 mm from the Liga Sure divided stumps. The silk-tied vessels showed inflammation and granulation tissue formation at 7 days.

Conclusion: LigaSure achieves perfect sealing in pulmonary vessels less than 7 mm in diameter in sheep, in the early and late postoperative period. Lack of inflammation or granulation tissue is a significant advantage.

04

Thoracoscopy as an alternative approach to pediatric intrathoracic infections

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Aim: Complicated lung infections require surgical intervention, with a relative high risk of postoperative morbidity in children. Thoracoscopic surgery allows excellent visibility in children with potentially less morbidity and approximates the exposure during an open procedure. Our study discusses thoracoscopic treatment of infectious thoracic diseases with illustrative case reports.

Methods: We have treated 15 cases (9 empyemas, 3 postpneumonic abscess, 2 hydatid disease and 1 mediastinal mass) using thoracoscopic approach, during November 2001 – May 2003. There were 10 males and 5 females of age 5 mo – 12 years (average 5.5 y). All patients were evaluated preoperatively by ultrasound and\or CT. All procedures were performed under bilateral lung ventilation and the thorax cavity was routinely insufflated using 5 mmHg CO2. Surgical access was accomplished using two or three reusable 2.8 - 5 mm ports or the 5 mm StepTM trocar assembly. Four cases were treated through a single port.

Results: Simple detachment of the abscess debris and aspiration was all that was needed followed by tube drainage. The chest tubes were removed on an average four days (2-10 d) and the patients were discharged in an average five days. Conversion to open thoracotomy was needed in one case. An additional chest tube had to be placed in another with subcutaneous emphysema. In all cases, chest radiographs except for one with minimal persistent air entrapment, returned to normal.

Conclusion: Thoracoscopic surgery is highly beneficial in the pediatric practice and has the advantage of decreased perioperative pain, less postoperative pulmonary compromise, and comparable or lower cost when compared with open thoracotomy. Hospital stay and duration of chest tube drainage are shorter for thoracoscopic procedures.

05

Video-thoracoscopic approach to primary mediastinal pathologies

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This study was performed to investigate the validity of video-thoracoscopic surgery for the diagnosis and also treatment of primary mediastinal diseases.

From 1994 to 2002, videothoracoscopy was performed in 628 patients of which 22 was regarded as primary mediastinal pathology with radiographic examinations. There were 10 (%45) women and 12 (%55) men with mean age of 44.6 (from 5 to 75 years).

VATS was performed as diagnostic procedure in 15 (%68) cases while for therapeutic complete resection in 7 (%32) cases. Diagnostic videothoracoscopy yielded adequate diagnosis in all of 15 patients. Among them, 5 underwent thoracotomy because of enlarged tumor size, tumor invasion of nearby structures, esophageal diverticule or morgagni hernia. Complete video-thoracoscopic resection was succeeded in 7 patients including 5 various cystic lesions (2 simple pleuropericardial cysts, 1 hydatid cyst, 1 cystic lymphangioma, 1 mature cystic teratoma) and 2 mediastinal tumors (non-invasive thymoma and benign neurogenic tumor). The postoperative drainage period was meanly 1.7 days (ranging from 1 to 4 days) for therapeutic group and 3.1 days (ranging from 1 to 7 days) for diagnostic group. There was no mortality in both of two groups. The postoperative complications occurred in only diagnostic group including 2 prolonged air leaks (%13).

In conclusion, VATS is a safe and effective procedure for the diagnosis of primary mediastinal diseases and the complete resection of encapsulated and noninvasive tumors or cystic lesions. Because it has shorter postoperative period, lies postoperative pain, better cosmetic appearance and lower morbidity and no mortality.

06

Vats in indeterminate pleural effusion

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Objective: VATS is widely used for diagnosis of indeterminate pleural effusions. In this study, we analyzed the diagnostic yield of VATS relevant to the clinical diagnosis.

Methods: Fifty patients underwent VATS due to indeterminate pleural effusion during 2000-2003. Procedure was performed under general anesthesia in 49 and local in 1. Bilateral exploration was done in 2 and unilateral in 48 (right 22, left 26). Age, gender, amount of effusion, suspected clinical diagnosis and histologic diagnosis were analyzed.

Results: The patients were grouped into clinically benign (n=19, 14 male, 5 female) and malignant pleural effusions (n=31, 13 male, 18 female). Median ages were 49 (14-77) and 65 (35-84) respectively. The average amounts of effusions were 500 ± 440 ml and 1350 ± 1025 respectively (p=0.0014). In 23 (%74) of 31 clinically malignant pleural effusion, there was a known primary malignancy elsewhere. In 7 patients mesothelioma was clinically suspected whereas in 1 there was no known primary tumor. Following VATS, the histologic diagnosis was the same as clinical diagnosis in 25 (%81) of 31 patients. In clinically benign effusions, the histologic diagnosis was the same as clinical diagnosis in 16 (%84) patients, with chronic fibrinous pleuritis (n=13) being the most common result. Overall rate of conformity between clinical and histologic diagnosis was 82% (41/50).

Conclusions: The histologic diagnosis obtained using VATS overlaps clinical diagnosis in over 80% of the patients in this series. In patients with known primaries elsewhere, histologic confirmation may be omitted as it does not change the final management.

07

Endobronchial treatment of destructive lung TB

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597 patients with sputum-positive destructive lung tuberculosis were treated by basis antibacterial and endoscopy antibacterial therapy in our hospital. Endocavitar injections of drugs were carried out by means of micro irrigator with external diameter 1.7- 1.8 mm, controlled by electronic-optic transformer. Bronchi TB of lobar and/or segmental bronchus was diagnosed in 74.8% cases. Besides them, the nonspecific endobronchitis with various hard degree and extent were appeared in 91.1% patients. Endoscopy procedures carried out twice a week, about 12-15 procedures from the course. Endocavitar injections of antibacterial drugs were with taking into account the drug susceptibility, and were not more than 2 drugs simultaneously. The infiltrative TB was diagnosed in 71.1% cases, the disseminative TB – 28.9% cases. In 46.3% cases patients were drug resistance from 2-3 drugs. There was a control group from 100 patients with analogous lung TB, with treatment carried out without endoscopy procedures. The cavity healing in the lungs was diagnosed in 94.7% cases in the experimental group, and in 67.3% cases – in control group. The period from the cavity healing in the experimental group was about 1-1.5 months shorter than in the control group. So, the endobronchial endocavitar injections of the antibacterial drugs allowed considerably to rise the effectivity of treatment of destructive lung TB.

08

The role of vats in the treatment of malignant pleural effusions

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Objective: Video-assited thoracic surgery (VATS) which is gaining more place in the treament of malignant pleural effusions (MPE) provide both diagnosis and treatment. This study evaluated the efficiency of VATS in diagnosis and treatment of MPE.

Material and Methods: Between 1996 and 2002 years, 57 cases treated due to MPE in Yedikule Chest Surgery Center were evaluated retrospectively. Thirty-one of the cases were male, and 26 female with a mean age of 55±12 (27-83). Thirty-six cases were treated with tube thoracostomy and pleurodesis, 18 with VATS and pleurodesis, and 3 cases with VATS+pleurectomy. The most common etiology of MPE were lung cancer, malignant mesothelioma, breast cancer, and ovarian cancer.

Results: Eight out of 36 cases treated with tube thoracostomy had recurrence in 30 days. Whilst none of the 18 cases treated with VATS and pleurodesis had recurrence. The drainage time of tube thoracostomy and VATS were 7,3 and 4,5 days respectively, and the difference was statistically significant ($p<0,05$).

Conclusion: VATS enables the physician to take multiple biopsies under direct vision for diagnosis, and also provides rapid desicions about the treatment options. Besides VATS is more succesful than tube thoracoscopy, and it should be the method of choice.

09

Laparoscopic management of hydatid diseases of liver

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We successfully managed five cases of large hepatic hydatid cysts using the laparoscope, with excellent postoperative follow-up results. Two men and three women participated in this study, with patient ages ranging from 13 to 46 year. The duration of the disease ranged from 1 to 4 years All patients had undergone preoperative albendazole fherapy for more than 2 months. After establishing protection of the operative area, a. laparoscopic umbrella shaped trocar was inserted into the cyst fit the most prominent point and the cyst was aspirated with large-bore suction and filled with hypertonic saline solution. Complete evacuation of the cyst contents, including all daugther cysts and laminated membrane, along; with o subtotal excision of the extrahopatic part of the cyst wall and innortion of o drain into the cyst cavity, was accomplished without any apillage into the peritoncal cavity. There no complications during the insertion or the evacuation. In one case bile leakago was observed after 1. postoperative day and the patient underwent ERCP. No radiological recurrence was observed in an Follow-up of 25 months (range 12 to 36 months)

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Laparoscopic splenectomy: analysis of fourty consecutive cases

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Aim: The surgical management of splenic disorders has changed considerably in the past few years. The increased use of laparoscopic approach for general surgical problems has prompted surgeons to investigate feasibility of laparoscopic splenectomy (LS). The aim of this study was to analyse the results of our patients who underwent LS.

Methods: From January 1993 to June 2003, 40 patients (12 male, 28 female) with a mean age of 29.1 (14-35) years underwent LS. The patients were evaluated according to intraoperative blood loss, plateletcount, operative time, hospital stay and conversion rate.

Results: Laparoscopic splenectomy was completed succesfully in 35 patients (87.5%). In five patients (12.5%), laparoscopic surgery was converted to open splenectomy due to bleeding (4 patients) and massive splenomegaly (1 patient). Estimated avarage blood loss was 150 ml 70-400ml). The mean platelet count was 70000 mm3 (17000-194000). The mean operative time was 110 min (60-240min). The mean hospital stay was 2.7 days (2-5 days). The average spleen size and weight was 14 cm (8.5-19 cm) and 192 gr (145-450 gr), respectively. There were 30 patients (75%) with idiopathic thrombocytopenic purpura (ITP), 3 patients (7.5%) with autoimmune haemolytic anemia, 5 patients with haematologic malignancy (12.5%), one patient with Evan's Syndrome (2.5%), one patient with hydatid cyst (2.5%). There were no mortality related with the surgical procedure. No late complications of the operation were recorded.

Conclusion: Laparoscopy is a safe and cost-effective approach and should be strongly considered in patients requiring splenectomy.

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Laparoscopic splenectomy and ligasure

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Aims: Considering the advantages of laparoscopic operations, laparoscopic splenectomy (LS) is a preferrable choice especially for hematologic diseases. Intraoperative bleeding is the main complication and main cause of conversion during LS. We present the advantages of the use of Ligasure for achieving a precise hemostasis and making the LS easier.

Methods: Ligasure (Valleylab, Boulder, Co, USA) is an energy-based equipment which works applying a precise amount of bipolar energy and pressure to the tissue, achieving a permanent seal. We have performed LS using Ligasure for 10 patients (4 females, 6 males, mean age:36 years) between December 2002 and August 2003. We employed a technique with 4 trocars, right semilateral position associated with the entire dissection of the spleen and vessel sealing performed with Ligasure. All patients had ITP.

Results: There were no conversion to open surgery. Mean dimensions of spleens were 99x49 mm (range: 85x36 – 118x60). Intraoperative blood loss was no more than 100 mL in any patients (range: 20-100, mean: 60cc). 2 patients needed blood transfusion during the first postoperative day, but no relaparotomy was necessary. The avarage operative time was 93 min (range:60-155 min), including 1 patient undergoing combined cholecystectomy. There were no complications in the postoperative period. The avarage postoperative stay was 4,3 days (range: 3-7).

Conclusions: LS using Ligasure is a safe and time-sparing procedure. Besides, the intraoperative blood loss is considerably less.

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Laparoscopic splenectomy: eight-year experience

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The laparoscopic access is now considered as the most effective approach to the spleen in a wide majority of indications to splenectomy. Innumerable reports have demonstrated the feasibility of laparoscopic splenectomy even in the most difficult situations. The experience of our group, started in 1995, consists of 55 splenectomies, 8 of which performed by hand-assisted (HALS) technique. The main points of the technique are 1. patient in a lateral position 2. four or, less frequently, three trocars 3. use of harmonic scalpel for the dissection of the spleen an for the section of the vessels of the gastro-splenic ligament 4. use of ENDOGIA for the section of splenic vessels 5. spleen removal in an endocatch through fragmentation . In case of HALS technique a lap-disk is position at the level of the hepigastrium to allow the introduction of the surgeon's left hand.

The average weight of the spleens was about 450 g (range 200-4000), six accessory spleens were also removed. The average operative time was 150 minutes for standard laparoscopy and 135 minutes for HALS splenectomies.

Four patients underwent conversion to laparotomy due to 1. splenic vein injury 2. huge lymphnodes at the splenic hylum 3. gastric fistula from a splenic abscess 4. huge spleen (4 kg). In on case there was a conversion from standard laparoscopy to HALS technique due to an important bleeding in the gastro-splenic ligament. The average intra-operative blood loss was about 300 ml.

Post-operative complications consisted in two cases of bleeding: on of them required reoperation. In one case there was a portal thrombosis successfully treated by anticoagulant therapy. No post-operative mortality.

The average post-operative hospital stay was 4 days (range 2-11). Laparoscopic splenectomy appears to be the "gold standard" technique in the treatment of various splenic affections such as essential thrombocytopenia or lymphomas. The limits of this procedure appear to be essentially the spleen dimensions or local situations such as adhesions to other organs or big lymphnodes. The application of HALS technique can increase the indications and feasibility, compared to standard laparoscopy.

13

Surgical audit of first 25 laparoscopic splenectomies

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Aim: To assess the safety and clinical outcome of laparoscopic splenectomy.

Method: All consecutive patients referred for laparoscopic splenectomy to a tertiary centre were included in the audit. Open splenectomy was carried out on those with huge spleen. Patient were positioned at 60 degrees semi-supine. Exploration of upper abdomen was carried out routinely for presence of accessory spleen. Homeostasis of vessels performed by intracorporeal suturing routinely and in some conditions by clips. Spleen put in a bag after emptying of its blood by cutting hilar vein and removed from bag by splitting.

Results: During 18 months 25 laparoscopic splenectomies were performed; 19 ITP, 1 spherocytosis with gall-stone and 5 moderate splenomegaly with hypersplenism. Mean splenic size was 11*5*3.5cm , with the biggest spleen measured at 25 x 9 x 5 cm. Splenic vessels were tied using intra-corporeal suturing (20 cases) or clips (5 cases). There was one case of conversion to open surgery. Two cases of ITP did not respond ideally to splenectomy. In cases of moderate splenomegaly, spleen was divided into 3 parts prior to use of bag. Mean operative time was 70min; and mean length of hospital stay was 3 days. All patients discharged from hospital without any morbidity or mortality.

Conclusion: Laparoscopic splenectomy including moderate splenomegaly is safe, with good patient outcome

14

Robotic surgery: one year experience

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Many procedures are today performed by minimally invasive technique (laparoscopy, thoracoscopy, etc.), improving patient quality of life and outcomes. Anyhow laparoscopic technique requires a long learning curve because of the instruments have limited number of degrees of freedom, two-dimensional vision of the operating field, discomfort, fatigue and tremor after a long period.

We started our laparoscopic experience in 1991 performing cholecystectomy and herniorraphy (TAPP technique). Up today we have performed over 6.000 laparoscopic operations (cholecystectomy, appendectomy, colon resection, gastric resection, splenectomy, fundoplication, Heller myotomy, etc.).

From September 2002 we have in our Department the "Da Vinci Surgical System", an advanced robotic device: three-dimensional imaging (3-D) with a stable camera platform, it overcomes the limitation of laparoscopic instruments by endo-wrist technology, the surgeon works in an ergonomic and comfortable operating position. By this device we have performed over 60 operations; cholecystectomy was the starting operation to test and to take confidence with the robotic machine; fundoplicatio and Heller myotomy, colectomy and splenectomy, were the following operations performed.

Robotic surgery is a laparoscopic surgery; the surgeon and trocars dispositions are different, the installation time was initially longer but the median operative time after a few cases was lower and the surgeon operate easier with a comfortable position and optimal view. We think that some technological developments will be able to improve such device. We illustrate our starting experience.

GENERAL SURGERY II - Foregut

15

Prospective clinical assessment of 20 laparoscopic hand sewn upper gastrointestinal anastomosis carried out by a single surgeon

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Aim: To assess the safety and clinical outcome of first 20 cases of upper gastrointestinal (GI) laparoscopic hand sewn anastomosis carried out by a single surgeon.

Methods: Consecutive consenting patients requiring palliative gastrojejunostomy (GJ) and/ or cholecystojejunostomy (CJ) were included in the study. Single layer continuous extra-mucosal anastomosis were carried out using 2-0 Vicryle. Unedited video tapes of the procedures were analysed for surgical errors using human reliability assessment techniques, at a separate laparoscopic centre. Barium meal and abdominal ultrasound were obtained in all patients on 5th postoperative days to check anastomotic integrity and intra-abdominal collections.

Results: Twelve GJs and 8 CJs in 14 patients were carried out. Each operation took on average 66.2 (s.e.m 6.3) minutes (active time). Overall, the total errors (consequential and non-consequential) declined as more cases were performed. Consequential errors requiring corrective action to repair tissue were uncommon (0.5/ case for the series). There were no leaks or collections demonstrated on postoperative tests. All patients were discharged home. The average hospital stay was 7.9 ± 0.9 (s.e.m.) days. One patient died at home on 7th postoperative day due to cardiopulmonary arrest.

Conclusion: Laparoscopic hand sewn upper GI anastomosis is safe and provides good patient outcome.

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Thoracoscopic enucleation of a giant leiomyoma of the esophagus

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Since the introduction of thoracoscopy in the surgical field, many thoracic interventions have been considered feasible via thoracoscopic route. The authors reported a case of thoracoscopic enucleation of a giant esophageal leiomyoma (8.5 cm in diameter) situated along the left side of the midesophagus.

A 46-year-old man who had submitted with the symptoms of dysphagia had undergone thoracoscopy. After opening the pleura, the esophagus was elevated and gently rotated in anti-clockwise direction to reach the left-sided tumor. Esophageal myotomy was extended to the proximal and the distal margin of the tumor for enucleation. The tumor was then bluntly enucleated. Postoperative period was uneventful and the patient was discharged on the eighth postoperative day.

Given the well-known advantages of minimally invasive surgery, we assume that the esophageal leiomyomas can be removed by thoracoscopic approach, even if the tumor is of a big size.

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Laparoscopic resection of gastric lipoma presenting as acute gastrointestinal hemorrhage: a case report

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Gastrointestinal lipomas are rare, benign and slowly growing tumors of the gastrointestinal system that can lead to obstruction, invagination and serious acute upper gastrointestinal bleeding. Here we present a case applied to the emergency unit in our hospital with acute upper gastrointestinal bleeding. We performed laparoscopic tumor excision.

A 71 year old male applied to the emergency room in our hospital with complaints of hematemesis and melena. The physical examination revealed neither abdominal tenderness nor palpable mass, but melena on digital examination. Blood pressure was 110/70 mmHg. Heart beat per minute was 100 and hematocrite value was 27 %. Upper gastrointestinal system revealed a 4x1 cm mass with superficial ulceration in the posterior wall of the stomach. The histopathological examination of the endoscopic punch biopsy showed that it was benign. Abdominal CT revealed a lesion of lipid density that was 3,5-4 cm in size. The patient was operated in elective conditions. Laparoscopic lipoma excision through an anterior gastrotomy was done. Gastrotomy with a 5 cm incision in the antrum of the stomach was done and the mass was exposed. The mass was excised with endoGIA 30 and 60 (Tyco, Autosuture USSC, Connecticut) with clear tissue margins. Anterior gastrotomy was closed with one layer intra-extracorporeal sutures. Methylene blue was given through the nasogastric tube to check any possible leakage. The patient was discharged on the 6th postoperative day without any complications. The histopathological examination of the specimen revealed that it was an intramural lipoma.

Although there is a debate on the management these rarely seen tumors, laparoscopic excision of the gastric lipomas is a safe and effective method.

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Our experience in laparoscopic nissen fundoplication for the treatment of gastroesophageal reflux disease

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Aim: Gastroesophageal reflux disease (GERD) is the most common disease of the esophagus which can be treated either medically or surgically. The aim of the surgical operations performed in this disease is to obtain a new barrier at the lower esophageal sphincter. In this study we wanted to investigate the effectivity of laparoscopic Nissen fundoplication (LNF) in the treatment of gastroesophageal reflux disease (GERD).

Methods: 80 patients who underwent LNF in our department between March 1992 and July 2003 were reviewed retrospectively. There were 46 female (57.5%) and 34 male (42.5%) patients with a mean age of 43 (18-71). Preoperative endoscopy and biopsy was performed to all patients. 24 hours ambulatory esophageal manometry and pH testing was performed in 56 patients (70.0%), and esophagea roentgenographs with barrium was seen in 22 patient (28 %). There were GERD in 76 patients and paraesophageal hernia was seen in four (5%) patients with GERD. All the patients underwent control endoscopy in the third month postoperatively. Also postoperative manometrical examination was done in 20 patients (25%) who also had preoperative manometrical exams.

Results: Esophagitis was seen in all the patients with preoperative endoscopy. The mean lower esophageal sphincter pressure was 9.5+/-3mmHg in 56 patients who were performed manometry preoperatively. LNF was completed successfully in 78 patients (97.5%). Conversion to open surgery was seen in 2 (2.5%) patients because of paraesophageal hernias and bleeding. There were no mortality. Complications were seen in 6 (7.5%) patients. The mean operation time was 125 minutes (80-205 min). The mean hospital stay was 2 days (1-10 days). Follow-up could be performed in 70 (87.5%) patients. The mean follow-up time was 48 months (16-110 months). There were no necessarity for a second operation. Postoperative mean lower esophageal sphincter pressure was 15+/-3mmHg and it was significantly higher.

Conclusions: LNF in the treatment of GERD is a safe procedure with low morbidity and mortality rates and can be performed alternatively to a long term medical treatment.

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Laparoscopic treatment of mesenteric cysts

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Aim: Mesenteric cysts are rare intraabdominal tumors. The aim of this study is to describe laparoscopic treatment options for mesenteric cysts.

Methods: We review the diagnosis, laparoscopic management, patients outcome and follow-up in four cases of mesenteric cyst that presented to Istanbul Medical Faculty from 1999 to 2003.

Results: We made four laparoscopic operations for the treatment of mesenteric cysts, during the last four years. All of the patients presented non-specific abdominal symptoms such as constipation, abdominal discomfort and anorexia. Preoperative evaluation to differantiate from malignancy is made by abdominal ultrasound and computed tomography. The procedure was completed laparoscopically using three trocars in 4 patients. In one patient retroperitoneal resection was performed. There were no intraoperative or postoperative complications. Operative time was between 50 to 60 minutes. Follow-up ranged from 6 to 36 months, there were no recurrences.

Conclusion: The surgical treatment of mesenteric cysts should be done by laparoscopy nowadays, which offers significant advantages in respect of reduced morbidity and hospital stay. In appropriate cases which cyst arises from mesenterium of the colon, laparoscopy should be applied via retroperitoneal approach.

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Six years experience in pediatric minimal invasive surgical practice

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Aim: Videoendoscopic surgery is now the increasingly preferred operative technique for innumerous disorders in children. The development of wide array of instruments available, of various diameters and lengths, have enabled minimally invasive surgical practice suitable for use in a child of any size. Our clinical experience concerning diagnostic, video-endoscopic and video-assisted surgery will be discussed in the present paper.

Methods: A total of 316 minimally invasive procedures were accomplished among 288 cases (193 male, 95 female) with an average age of 3.7 y (5 days – 16 y) between June 1997 and September 2003. Approximately 85% of the operations were performed during the last two years.

Results: Diagnostic procedures concerning acute abdomen, contralateral exploration in inguinal hernias, and search for nonpalpable testis consisted the bulk of our procedures in 212 cases. Laparoscopic intervention was eventually performed in the indicated cases from this group. We performed a total of 105 video-endoscopic procedures, of which 18 were thoracoscopic. Video-assisted surgery (thoracoscopic 1) was the choice of approach in an additional eight cases. Conversion to open surgery, including two thoracotomies (intestinal perforation 1, bleeding 1, respiratory 1 and technical difficulties 4) was indicated in seven

cases.

Conclusion: The annual rate of our minimal invasive practice has slightly reached beyond 35% since October 2001, when we received our pediatric endoscopic instruments. Minimal invasive surgery in the pediatric practice is no doubt a promising innovation. It is helpful in minimizing access trauma when compared to the conventional technique, permitting a variety of operative procedures to be performed safely in children.

GENERAL SURGERY III - Gallbladder

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A population-based study on the adverse effects of laparoscopic cholecystectomy and management of common bile duct stones in Qatar the first five years

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Objective: To conduct a population-based study on the incidence of advArse events following Laparoscopic Cholecystectomy and the procedures necessary to manage calculi in the common bile duct. The first five years' experience.

Methods: A retrospective study on all patients posted for Laparoscopic cholecystectomy in the only Acute General Hospital in the State of Qatar.

Results: 2429 patients were posted for Laparoscopic cholecystectomy between 1993 and 1997. Fifty patients (0.2%) had adverse events. The most serious were Trocar injury of the external iliac artery in one patient (0.04%} and the transaction of the common bile duct in 2 patients (0.08%). Other unique adverse events included trocar site abdominal wall bleeding. Bile leakage from the cystic duct and trocar site hernia. Conversion to an Open cholecystectomy was required in 5.4 patients (2.2%).

The commonest methods in managing calculi in the common bile duct were preoperative endoscopic sphincterotomy with stone clearance (50%), cholangiography and flushing of stones with saline (18%) and postoperative endoscopic choledochotomy waS attempted in 5 patients and calculi were removed successfully in one patient. Conversion to open choledochotomy to remove calculi from the CBD was performed ~n 7 patients (14%).

Conclusions: Although Laparoscopic cholecystectomy is associated with some unique adverse events, yet they are rare have not dampened enthusiasm by both surgeons to perform the procedure and patients to undergo it. Endoscopic sphincterotomy with stone clearance has become the most common method in the management of calculi in the common bile duct.

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Reasons for conversion from laparoscopic to open cholecystectomy

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Aims: Laparoscopic cholecystectomy (LC) offers many advantages, despite the fact that a number of patients require conversion to an open procedure. This study states our experiences in LC regarding conversion and the reasons for its performing.

Methods: All 1469 patients undergoing LC between January 1999 and August 2003 were prospectively collected in a database. Operations were performed at Surgical Clinic, Clinical Center Nis (863 patients) and Surgical Department Health Center Zajecar (606 patients). We analysed the rate of conversion and reasons that led from laparoscopic to open cholecystectomy (OC).

Results: The median age of patients was 49 (18-82). Intraoperative conversion into laparatomy occurred in 60 patients (4,08%). Reasons for conversion were as follows: acute cholecystitis in 26 patients (43,33%), chronic cholecystitis (alone or associated with pericholecystitis) in 24

(40 %), iatrogenic injuries in 6 (10%), holedocholithiasis in 2 (3,33%) and "other" indications (3,33%). LC was performed on 316 men, 26 (8,22%) of whom underwent conversion to open procedure. 34 (2,94%) of 1153 women underwent conversion to OC. The conversion rate hasn't changed significantly during the above mentioned time period.

Conclusion: The overall conversion rate of 4,08% seems reasonable and acceptable in comparison to the initial results published by some experienced surgeons from developed countries.

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CBD injury after lap.chole in smc - bah

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With more than 5000 major cases going for surgery every year, laparoscopic surgery was introduced in april 1992 with laparoscopic cholecystectomy. Since then until january 2003, about 1958 laparoscopic cholecystectomy have been done. this is a review of the most serious complications of this procedure which we call it "the surgeon's nightmare". Out of 687 in first five years procedures, we had 6-cases of cbd injury, (0.87%). We categorize them in 5-grades - " i" ilia, 111b, iv. in second 5-years, out of 1271 case,

We had onl y one case of cbd injury. They underwent different management according to the grade of injury. our rate is more or less similar to the other centers. we conclude:

1. using of 30 camera in difficul t case-
2. per-operative cholangiogram to be done if any doubt about duct injury.
3. ercp -the best post -op investiga tion for suspicious duct injury
4. the rate of cbd injury is decreasing in bahrain.

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Morbidity and mortality in laparoscopic cholecystectomy

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From 1994 to 2003,1950 laparoscopic cholecystectomies have been done in our surgical department. Per operative controlled incidents occurred in 104 cases(haemorrhage 50 cases, galblader perforation: 50 cases and total cystic channel section : 4 cases) The rate of conversion is 8%. Adhesions (26),haemorrhage (22 cases and common bile duct injury (4 cases) represent the principal causes of the conversions Our morbidity is 3 %.umbilical sepsis (28%), peritonitis (3 cases), sub phrenic abscess(3 cases). Our mortality is 0.2% (3 cases)

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Laparoscopic cholecystectomy in a patient with situs inversus totalis and previous laparoscopy

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Aim: Situs inversus totalis is a rare congenital defect that can present difficulties during laparoscopic surgery due to the mirror image anatomy. Here in we report a patient with situs inversus totalis and previous laparoscopy and symptomatic cholelithiasis to show the feasibility and safetty of laparoscopic surgery.

Methods-Results: A 42 year old woman with known situs in versus totalis and previous laparoscopy for infertility , presented with left sited abdominal pain and symptoms consistent with biliary colic and cholelithiasis. Abdominal ultrasonography and computerized tomography confirmed the diagnosis of gall stones as well as situs inversus. At surgery, the surgeon and tv camera assistant were standing on the right hand site of the patient and first assistant was on the left. The camera was introduced thorough an old-umbilical incision with open technique. The other 10 mm trocar was placed in the midline left of falcifarum ligament and two 5 mm trocar placed in the left subcostal midclavicular and anterior axillary line respectively. Laparoscopic cholecystectomy was performed successfully except forbeing the mirror image of that done with gallbladder in the normal location. Patient recovered uneventfully.

Conclusion: Laparoscopic surgery is safe and feasible procedure in patients with situs inversus, by surgeon who takes time in clearly demonstrating the surgical anatomy of the patient with its right to left shift.

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Conversion rate in laparoscopic cholecystectomy

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Laparoscpic cholecystectomy (LC) has become the treatment of choice for symptomatic gallstones.But conversion to open cholecystectomy (OC) remains a possibility.

Aim: We aimed in this study to evaluate the conversion rate, reasons for conversion and how to prevent conversions.

Methods: We evaluated the data of 980 patients underwent laparoscopic cholecystectomy at our clinic between May 1993 and June 2003. The data were assessed for indication of the operation, converting rate, reason for converting, complications and mortality rate.

Results: The operation indications were chronic cholecystitis in 923, and acute cholecystitis in 51 of all patients.The other 6 had gallbladder polyps that need surgical treatment.The patients were selected under patients that had no proven contrindications for LC. The laparoscopic procedure converted to open in 24 patients (2.4%). Causes for conversion were most commonly inability to identify the anatomy and suspected bile duct injury. In one case was duodenal perforation the reason. There were no other reasons such as intraperitoneal bleeding, suspected choledocolithiasis or reasons depending on pneumoperitoneum. The unclear anatomy was mostly caused by inflamation due to repeated attacks of cholecystitis.There were no mortalities and the complication rate was low (2%).

Conclusion: Based on our experience we suggest limiting LC in patients with proven contrindications will decrease the conversion rate.

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Factors influencing per coelioscopic main bile duct injury

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Aims: We try to identify factors influencing factors responsible of per coelioscopic main bile duct injury.

Material: During the last ten years, nine per coelioscopic injuries of main bile duct were treated in our department. Tow were of second hand and the others of first hand.(7/1150 coelioscopies = 06%) All were female. the average age was. Five were diagnosed per operatively and treated after conversion (two hepatico jejunostomies with external bile drainage (EBD), two hepatico choledocol anastomosis with EBD, and one T tube external bile drainage). Four were diagnosed post operatively (one jaundice and 03 peritonitis), and treated by laparotomy (tow hepaticojejunostomies and one double hepatico jejunostomies . all five with additional EBD. Two EBD). Lesion was partial in one case. Main bile duct (MBD) was interrupted by clips in tow cases. Total section of the MBD was found in five cases with loss of more than 3cm of the MBD in tow cases. Per operative cholangiografy have not been performed in any of these cases.

Conclusions: Systematic identification of the junction between cystic channel and MBD ovoid confusion between these tow elements and so ovoid lesion of the MBD. Systematic per operative cholangiografy ovoid transformation of partial lesion when doing POC to totl one with or without loss of MBD substance, identify dangerous anatomic varieties of the bile duct tree, diagnose stenos is of the MBD by clips and make possible treatment of lesions in th same time.

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The effects of low and high pneumoperitoneum pressures on blood gases, respiratory and venous system during laparoscopic cholecystectomy

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Aim: Although there are many experimental studies performed on animal models the influence of different pneumoperitoneum pressures on patients blood gases, respiratory, and venous system during laparoscopy is not clear.

Method: Twenty patients were assigned in two groups anesthetised and insufflated with 7 or 14 mmHg CO2 insufflation during laparoscopic cholecystectomy. Respiratory mechanics were continuously monitored, arterial blood gases were analyzed via radial artery catheter, and duplex scanning of left common femoral vein was performed preinsufflation, during pneumoperitoneum, and after desufflation.

Results: CO2 insufflation caused a decrease in blood pH at both 7 mmHg p>0.05) and 14 mmHg pneumoperitoneum (p<0.05). Peak inspiratory pressure increased from 14.2±1.1 to 17.4±1.3 during 14 mmHg (p<0.05) and 11.4±0.6 to 12.6±0.8 during 7 mmHg (p>0.05) pneumoperitoneum both changes were reversible after desufflation (p>0.05). Duplex scan of left femoral vein revealed an increase on diameter 12.3±2.1 millimeters to 13.3±2.2 millimeters (p<0.05), and a decrease in peak blood velocity 14.3±3.4 to 17.9±6.3 centimeters per second (p<0.05) at 14 mmHg (p<0.05). And also an increase in diameter 11.9±2.4 millimeters to 12.3±1.5 millimeters (p<0.05), and a decrease in peak blood velocity 12.8±2.6 to 15.4±5.1 centimeters per second (p<0.05) at 7 mmHg(p<0.05) was revealed; however no statistically significant changes were determined following the desufflation in both groups (p>0.05). Dynamic compliance significantly decreased at both 7 and 14 mmHg (p<0.05).

Conclusion: Respiratory acidosis may occur due to decreased compliance and pneumoperitoneum causes reversible venous stasis especially during high pressures

GENERAL SURGERY IV - Hernia & Miscellaneous

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Laparoscopic inguinal hernia repair

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Inguinal hernia repair is the most frequently performed operation in general surgery. The standard method for inguinal repair had changed little over a hundred years until the introduction of synthetic mesh, This mesh can bo placed by either using an open approach or by using a minimal accese laparoscopic technique, 52 laparoscopic hernia repair operations was rewiewed retrospectively which performed between June 2000-June 2003 at SSK Istanbul Training Hospital) 43 male and 9 female, mean age was 32 (21-58). Totally extraperitoneal prosthetic (TEPP) repair operations was performed to 43 patients and transabdominal preperitoneal (TAW) repair was performed to 9 patients. Mean Operation time was 68 minutes (30-125 min) for TEFP operations and 82 minutes (40-140 rain) for TAPP operations. There were no conversions to open preccdure. Length of stay was 2 clays (1-3 days), At a mean follow-up ot 21 months there were no recurrence. We perform these two operation types safety and with the classic benefits of laparoscopic surgery.

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Recent results of laparoscopic ventral hernia management

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OBJECTİVE: After the first laparoscopic cholecystectomy in 1987, laparoscopic investments improved very fast and began to be used in ventral hernia is well. Ventral hernia patients treated with laparoscopic surgery were examined prospectively in this study.

MATERIAL-METHOD: A prospective study took place in Istanbul Medical School General Surgery Department between November 2002 - August 2003. 7 women patients diagnosed ventral hernia and treated with intraperitoneal onlay method.

(IPON) laparoscopy. Sepra mesh placed as a greft in 1 patient, polipropylen greft was placed to 1 patient , ePTFE (dual mesh) was placed to 5 patients. Grefts were prepared at least 3 cm. larger than the defect area. Body mass index (BMI), operation time, length of the hospital stay, greft diameter, postoperative pain and morbidity of patients were examined.

DATA: Mean age of patients was 48 (33-54), BMI of all patients were over 25% and in 57% of the patients it was over 30%. Operation mean time was 105 (90-120) min. Defects area's mean diameter was 6 (4-8) cm. Average time of the hospital stay was 9 (2-34) days. Patiens were scored of postoperative pain from 0 to 10 with visual pain scale. Mean score of pain was detected as 3 (0-10). Postoperative morbidity consists of seroma in 1 patient, subcutaneus hematoma in 1 patient using Warfarin, and brid ileus in 1 patient. The patient with seroma was observed conservatively. Percutaneus drainage was made to the patient with subcutaneus hematoma , and bridotomy was made to the patient with brid ileus.

RESULTS: Patient who underwent laparoscopic surgery have less pain, cosmetic advantage, get back to physical activity earlier, and don't consists of complications due to large incision.These superiorities are developing popularity of laparoscopy, but the need of more expensive tools and equipments than classical methods are limiting the use of laparoscopy. Large clinical controlled series are mandatory to compare laparoscopy with conventional surgery in ventral hernia treatment.

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Laparoscopic repair of a recurrent ventral hernia after unsuccessful laparoscopic repair

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Laparoscopic hernia repair has become a widely accepted technique for ventral and incisional hernias. Learning curve, intraperitoneal onlay mesh fixation method and, the discordance between the prepared mesh and the defect (small mesh and big defect) are the causes of the recurrence.

We herein report the case of a 38-year-old woman who presented with extremely large hernia after unsuccessful laparoscopic repair 2 years ago. Blunt laparoscopic access was performed including two additional ports. Adhesions to the mesh and tacks were gently and sharply dissected. The abdominal wall defect was repaired with Gore-Tex mesh (Dual Mesh, W.L. Gore & Associates, Flagstaff, AZ, USA). Postoperative period was uneventful.

Laparoscopic approach allows for good visualization of distorted tissues associated with gathered peritoneal mesh. Laparoscopic repair of recurrent ventral hernia appears to be safe and is proving to be effective as it decreases pain, complications and hospital stay.

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Laparoscopic repair of giant and complicated ventral hernias: experience from turkish training hospital

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AIM: Ventral hernia is a major problem in general surgical practice. Despite of this fact there are no guidelines on the best surgical management. According to advancement in laparoscopic surgery, laparoscopic approach to ventral hernias has been used increasingly with acceptable results. Aim of this video presentation is to show adhesiolysis and ventral hernia repair by laparoscopic approach and Sepramesh application.

MATERIAL AND METHODS: In 2003, five laparoscopic ventral hernia repairs were performed in our clinic. In one patient additionally laparoscopic cholecystectomy was performed. In all cases intraperitoneal Sepramesh application was done.

RESULTS: All patient were female, median age was 59.4 years (39-74 years), median body mass index was 31.24 kg/m2 (24.2-46.8 kg/m2), median hernia size was 73 cm2 (20-195 cm2), median mesh size 154 cm2 (45-380 cm2), median hospital stay time was 3.6 days (3-4 days) and median operation time was 133 min. (110-180 min.). One patient died due to pul monary emboli under prophylaxis in early ollow up.

DISCUSSION: More recently, laparoscopic technique is the choice in many surgical situations involving individuals who are obese. Laparoscopy allows better visualization and avert large incisions so risk of wound infection and dehiscence decrease. These affects decrease hospital stay time and recovery time. Laparoscopic ventral hernia repair has been proved safe and effective, with reduced hospital stay and recovery time. Also compared to open surgery, laparoscopic ventral hernia repair has decrease complication rates. As a conclusion, laparoscopic ventral hernia repair can be performed safely and also for obese patients under prophylaxis.

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Laparoscopic inguinal hernia repair in girls

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Aim: Laparoscopic hernia repair in girls is a reciprocal modification of the open technique and there is no need for repair of the preperitoneal structures, unlike the adult cases. The procedure, however, deserves

comparative follow-up with regards to different types of repair. We have evaluated the long-term fate of the bulk of inverted hernia sac at the internal inguinal ring by the help of sonographic screening.

Methods: 39 female patients of age 35 days to 7 years (average 3 years) were included in this study. An umbilical 5 mm 0° scope and two 2.8 mm working ports lateral to the rectus muscles at umbilical level were utilized. The laparoscopic procedure involved inversion and suturing of the hernia sac using a single absorbable purse suture, which resulted in a nodule that plugged the internal inguinal ring and resembled a "rosebud". Any unexpected contralateral opening was repaired in the same fashion. The "rosebud" was examined postoperatively at intervals by ultrasound.

Results: Four patients presented with bilateral hernias. A contralateral opening accompanied the presenting unilateral hernia in 13 cases. A total of 56 open internal inguinal rings were repaired. The procedure lasted 40 min in bilateral cases. The dimensions of "rosebud" gradually diminished and disappeared in almost each case by the end of six months. There were three recurrences.

Conclusion: Laparoscopic ligation of the inverted hernia sac is a simple, safe, cheap, and effective method in female inguinal hernia repair. It is an effective method in minimalising the access trauma experienced in the conventional technique.

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Results of laparoscopic colectomy: a 2 years experience

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AIMS: Laparoscopic colectomy has been accepted slowly despite potential advantages because of the perceptions of a steep learning curve and increased operative times and costs. The purpose of this article is to review the outcome of a standardization of all the intraoperative and postoperative processes used in our department for the performance of laparoscopic sigmoid colectomy.

METHODS: A consecutive series of patients requiring laparoscopic sigmoid colectomy from March 1999 through December 2001 at the Istanbul University, Istanbul Medical Faculty, Department of Surgery, was analyzed. Patients requiring sigmoid or rectosigmoid resection for all colonic pathologies were included. Criteria for exclusion from an attempted laparoscopic sigmoid colectomy were body mass index >35 and prior major abdominal surgeries (exclusive of hysterectomy, cholecystectomy, or appendectomy). Data collected included age, gender, indication for surgery, body mass index, operative duration, length of hospital stay, complications, and mortality. Instrumentation for the procedure was standardized. Conversion was performed when a sequential step could not be completed in a reasonable time frame. A standard perioperative care plan was used.

RESULTS: From March 1999 through December 2001, we performed 18 laparoscopic sigmoid colectomies and 2 (10% percent) conversions. Indications for the laparoscopic sigmoid colectomies were diverticular disease (6 patients) and colonic neoplasia (14 patients). The male/female ratio was 14:6, and the mean body mass index was 27.3 +/- 5.6. Mean operative time was 119 +/- 35 minutes. Mean length of stay was 3.9 +/- 1.2 days for completed cases and 6.4 +/- 1.4 days for converted cases. No anastomotic leaks and operative mortality occurred. The overall complication rate was 6.6 percent.

CONCLUSION: The results indicate that a structured approach to laparoscopic sigmoid colectomy provides the surgeon with objective measures of operative progress that limit unduly long operations without increasing conversion rates and that control resource utilization. This approach provides a potential guideline for teaching and mastering laparoscopic sigmoid colectomy, reducing the learning curve, and optimizing results.

GENERAL SURGERY V - Obesity & Endocrine

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Complications of laparoscopic adjustable gastric banding

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Background: Over the past 48 months we have conducted 500 laparoscopic adjustable gastric banding (LASGB) operations. The primary aim of this study was to determine the rate and nature of complications associated with this procedure that necessitated reoperation.Another aim was to evaluate the temporal association between the complications and the learning curve for the operation.

Methods: **A retrospective review of patient's charts of the** first 500 cases of Lagb with a focus on postoperative complications that necessitated reoperation.

Results: Late postoperative complications were band slippage in 18 cases (3.6%), tube disconnection in 11cases(2.2%), band erosion into the stomach in five cases (1%), port site infection in five cases (1%) and aneurysmatic dilatation of the balloon in three cases (0.6%).

All 42 cases (8.5%) required reoperation.Band slippage, tube disconnection and bad erosion were associated with the learning curve,but aneurysmatic dilatation of the balloon and port site infection were not.

Conclusions: Band slippage, tube disconnection and band erosion are preventable LASGB complications. We describe methods to prevent and/or treat those complications.

Keywords: Laparoscopic adjusted gastric banding, complications.

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Laparoscopic bioenteric adjustable gastric banding system in treatment of morbid obesity

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Abstract: The problem of excess weight and morbid obesity in going to change to one the main health problem in industrial societies. There is a strong relation between this excess weight and development of life impairing co morbidities such as hypertension, diabetes type II, atherosclerosis, sleep apnea, osteoarthritis and this is a good reason for need to weight loss therapy over the years. Numerous medical and surgical treatments have been suggested. Although surgery should be considered the last resort to treat morbid obesity, it is also the only treatment. That really works for this condition in the era of minimally invasive surgery; the laparoscopic adjustable banding and the laparoscopic Roux-en-Y gastric bypass appear to offer the next logical evolutionary advance in the field of bariatric surgery. Laparoscopic banding in particular has wide appeal since it demands less time and relative skill compared to the laparoscopic Roux-en-Y gastric bypass.

Outside the united states Lap Band surgery is the most commonly performed operation for severe obesity. Based on latest studies a 40%-60% mean excess weight loss at 3 years is demonstrated by Lap Band approach, mean hospital stay less than 2 days, recovery is rapid and mortality is rare. Besides, knowledge of subtle details and expertise is required to reproduce favorable outcomes of permanent weight reduction and minimal complications. In our clinical experience we have done about 30 cases of laparoscopic BioEnteric adjustable gastric banding since 2002.We have found the procedure safe, effective, technically feasible and reliable procedure

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Laparoscopic insulinoma enucleation (case)

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Hereby, 49 year-old man with the diagnosis of pancreatic insulinoma who underwent laparoscopic enucleation, is presented. The intervention was completed successfully. Patient suffered from postoperative low-volume pancreatic fistula that was self-limited. This was the first laparoscopic enucleation of insulinoma in Turkey. The laparoscopic enucleation procedure is eligible method for superficially located corpus and tail insulinomas.

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Adenomectomie parathyroidienne par abord unilateral sous anesthesie locale. rapport de 64 cases

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Introduction:La cervicotomie exploratrice constitue le traitement classique de l'hyperparathyroidie(HPT). L'abord limité est une alternative possible donnant un taux élevé de guérison et moins de morbidité. Le but dece travail est de rapporter notre expérience dans l'adénomectomie para- thyroidienne par abord unilatréal sous anesthésie locale(A/U-A/L).

Matériel et Méthodes: Du 1/1/1996 au 31/12/2002, 54 femmes et 10 hommes d'âge moyen 55 ans ont été opérés d'adénomectomie parathyroidienne par

A/U-A/L. Les moyens de localisation pré-opératoire étaient : échographie (n=60), scintigraphie au MIBI(n=16) et scintigraphie au Thallium-Technetium Tl -Tc(n=1).Le suivi des malades allait de 1 à 55 mois et comprenait un dosage de la calcémie et de la parathormone.

Résultats: 60 des 64 patients(93,75%) opérés par A/U-A/L étaient guéris. Le temps opératoire variait de 10 à 20mn. Il n'a pas été noté de paralysie récurrentielle ni d'hypoparathyroidie. Tous ces patients avaient un adénome dont la taille et le poids variaient de 0.7 cm à 3.4 cm et de 200mg à 5300mg respectivement. Tous les patients ont quitté le lendemain de l'intervention. 4 patients ont nécessité une réintervention sous anesthésie générale à cause de la persistance d'un taux élevé de Ca et de PTH. Un deuxième adénome controlatéral(n=1) ou une hyperplasie(n=3) non localisés en préopératoire ont ete la cause. Ces 4 patients étaient guéris en postopératoire.

Conclusion: En cas d'HPT, et en respectant les contre-indications, un nodule découvert en préopératoire et qui a les caractéristiques d'un adénome parathyroidien est une indication de choix à l'adénomectomie par A/U-A/L.

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Laparoscopic adrenalectomy in an achondroplasic patient

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AIM: After laparoscopic adrenalectomy (LA) was first described in 1992, with rapid improvements in technology and better surgical skills, LA has become a common procedure for most benign functioning and nonfunctioning adrenal masses. LA is safe and minimally invasive procedure. Aim of this video presentation is to show laparoscopic adrenalectomy in an achondroplasic patient which is the first case as far as we know from the literature.

METHOD: 39 years old, achondroplasic female patient who is 130 cm. height and 58 kg. weight referred to our clinic for complaint of weight gaining. Two years ago she had segmental small intestine resection and took medication nine months for abdominal tuberculosis. Physical examination showed truncal obesity, facial plethora, hypertension and abdominal striae. Laboratory findings revealed that hyperglycemia and hypercortisolism. Diagnosis of hypercortisolism was based on basal serum levels of cortisol, urinary-free cortisol excretion, and the low-dose dexamethasone suppression test. Differential diagnosis between pituitary and adrenal hypercortisolism was established by serum ACTH. Abdominal CT revealed that 3 cm. adrenal mass at right. The final diagnosis is Cushing syndrome. Transabdominal adrenalectomy was performed by the help of ligasure.

RESULTS: Operation time was 213 min. The patient was discharged at the fourth postoperative day. There was no morbidity at early postoperative period.

CONCLUSION: Patients with Cushing syndrome have higher rates of surgical morbidity and mortality because of decreased wound healing and increased risk of postoperative infections. So LA must be the choice of the operation for Chushing syndrome. LA can be difficult for an achondroplasic patient due to decrease operation field but our case showed that there was no difference.

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Laparoscopic adrenalectomy operations

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Since 1992, it has been demonstrated that laparoscopy can used successfully for adrenalectomy, providing certain advantages, over Conventional open surgery. A retrospective review was done of the Cases performed at SSK Istanbul Training Hospital from June i to June 2003 laparoscopic retroperitoneal flank approaches were proposed in patients with a unilateral 0 cm or less, non-malignanti tumors of the adrenal gland. Laparoscopic adrenalectomy (LA) was performed in 10 patients (7 right and 3 left). A retroperitoneal approac in a lateral position was used. Gushing adenomas was present in two patients and non- functioning solitary adenoma was present four patients and Conn's syndrome, with a solitary functioning adenoma, was the diagnosis In four. Operative time for LA was 162 +/- 29 min and was associated with a short length of stay (20 +/-1 days) and minimal intraoperative blood loss (82 +!- 30 ml). There were no conversions to laparotomy and no complication was noted. At a mean follow-up of 18 months, all patients were cured. LA is a sate and operation for patients requiring adrenalectomy.

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Our experience of video-assisted thoracoscopic surgery (vats): analysis of 628 cases

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As a result of the development of endoscopic equipment and experience; VATS has been an important choice for the diagnosis and treatment of thoracic diseases. In this study, we evaluated retrospectively the indications, morbidity and mortality of VATS on 628 patients and also discussed the reasons of convertion to thoracotomy among them.

Between November 1993 and December 2002, VATS was performed in 628 patients including 426(67.8%) men, 202(32.2%) women with a median age 43.9 years (ranging from 8 to 84 years). The indications of VATS were following; undiagnosed pleural effusion: 310 (49.4%), pulmonary nodule or mass: 84(13.4%), empyema: 72(11.5%), staging of lung cancer: 63(10%), mediastinal mass or cysts: 22(3.5%), diffuse interstitial lung disease: 21(3.3%), hydatid cyst: 19(3%), bullous lung disease : 18(2.9%) and others (recurrent or persistant pneumothorax, organized hemothorax, pericardial effusion and foreign body): 19(3%). VATS was converted to thoracotomy because of strict adhesions in 61(9.7%) cases, the aim of decortication in 58(9.2%) and hemorrhage as a complication in 2(0.3%). There was no mortality. The morbidity rate was 4.8%(30/628) and prolonged air leak was the most common complication.

VATS can be easily performed with minimal morbidity for the diagnostic and also therapeutic purpose of thoracic diseases. However, it shouldn't be forgetten that the right indication and selection of suitable cases are very

important to obtain succesful results for VATS. The ratio of convertion to thoracotomy, depends on not only difficulty to apply this procedure because of adhesions undetected previously on radyographic studies but also experience about VATS.

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The role of diagnostic laparoscopy in the evaluation of penetrating left thoracoabdominal trauma

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Aims: It's extremely difficult to determine with physical examination and conventional diagnostic tests whether there is a diaphragmatic injury in the penetrating left thoracoabdominal trauma or not. The aim of this prospective study to determine the incidence and treatment of diaphragmatic injury with laparoscopy in the penetrating left thoracoabdominal trauma.

Methods: Over a 28-month period, 29 patients with left penetrating thoracoabdominal trauma admitted to Taksim Training and Research Hospital. Hemodinamically stable 19 patients without any indication for immediate surgery were included to study. All of the patients were men with average age of 26.7 years (range17-48). Stab wounds were responsible for all of the patients. Five patients (%26.3) had left hemo and/or pneomothorax. Within first 24 hours, all of the patients underwent diagnostic laparoscopy to determine the presence and treatment of diaphragmatic

injury.

Results: Seven patients (%36.8) were found to have a diaphragmatic injury and 6 of them (%85.7) underwent successful laparoscopic repair. The procedure failed in one (%14.2) patients because of loss of pneumoperitoneum through the intercostal drain. Three of 5 patients (%60) with hemopneumothorax were found to have diaphragmatic injury while 4 of 14 patients (%28.5) without hemopneumothorax were found to have diafragmatic injury. One patient (%14.2) had additional grade 1 injury of spleen. There were no deaths or postoperative complications. All patients were discharged uneventfully.

Conclusion: In hemodynamically stable patients with penetrating left thoracoabdominal trauma, laparoscopy can be used as a safe, minimally invasive, and extremely useful technique to facilitate the diagnosis and repair of diaphragmatic injuries.

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Laparoscopic evaluation of abdomen after penetrating stab wound in patient with selective management protocol

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Aim: The current modern management of penetrating abdominal trauma were decreased unneccessary laparotomy by using selective nonoperative management protocols. The necessity of mandatory laparotomy as a standard procedure in the management of abdominal stab wounds is controversial. Diagnostic laparoscopy (DL) may have a potential role in case of lowering of unneccessary laparotomies and detect the missed injuries.

Methods: Data were collected prospectively in 129 patients with penetrating stab wound from January 2000 to April 2003. Main indications for DL were; hemodynamically stable patients with left thoracoabdominal stab wounds, uncertain findings of peritonitis in patients with anterior stab wounds and in the presence of the omental or bowel herniation in selected patients.

Results: DL was performed in thirty eight of the patients (32%). Twenty four of them had thoracoabdominal injuries with 20 patients left and four patients right-sided injuries respectively. The patients with right-sided injuries also were had multipl anterior abdominal stab wounds. Of the remaining 14 patients; five had anterior abdominal injuries and nine had omental herniations with signs of uncertain peritonitis. Because of detecting bile in two patients and injuries of both stomach and diaphragm in one early laparotomies were performed. After exposing stopped omental bleeding, one patient kept on managing selectively. After DL avoiding laparotomy rate was 34 (84.2%).

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Safety of laparoscopic approach for acute cholecystitis

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Aim: Laparoscopic cholecystectomy (LC) has placed open cholecystectomy for the treatment of gallbladder disease. Despite the well-accepted success of LC in chronic cholecystitis (CC), the efficacy of this technique has been subject to some debate in acute cholecystitis (AC) (Group I). This study was designed to evaluate our institution's experience comparing AC and CC (Group II), according to the complications and convertion rates to open surgery.

Methods: From September 1991 to August 2003, records of 1300 patients with LC were analysed. The parameters of age, gender, early and late complication rates, and conversion rates from LC to open cholecystectomy were compared in patients with acute and chronic cholecystitis.

Results: During the study period, laparoscopic cholcystectomy was performed in 1300 patients, and 180 patients (14.07 %) had acute (Group I) and 1120 patients (86.9%) had chronic (Group II) symptomatic cholecystitis. The conversion rate was 4.4% (8/180) in Group I, 3.03% (34/1120) in Group II, respectively. The complication rates were not significantly different in both groups (5.6 % in Group I, 5.1 % in Group II). Difficulty in dissection around the Callot Triangle and obscure anatomy were the main reason for the conversion to conventional surgery. Mortality rate was 1.2% and 0.01% in group I and II, respectively.

Conclusion: LC appears to be a reliable, safe and effective treatment modality for acute and chronic symptomatic cholecystitis. The surgical approach should be performed carefully because of the spectrum of potential hazards of laparoscopic procedure. Conversion and complication rates were similar in both acute and chronic cholecytitis groups and improved as surgeons gained experience.

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Laparoscopic treatment of acute appendicitis

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Aim: Appendectomy is one of the most frequently performed surgical procedure in general surgery. Laparoscopic surgery has been proposed to have diagnostic and therapeutic advantages over conventional surgery. We designed this study to evaulate the our results of laparoscopic appendectomy (LA) operations.

Methods: From August 2002 to July 2003 LA was performed on 90 consecutive patients at our institution. In a retrospective study the charts of 90 patients were reviewed in terms of the operative time, length of hospital stay, intraoperative findings and postoperative complications.

Results: There were 54 male (60%) and 36 female patients (40%) with the mean age of 32 (ranges 16-68) in the study group. All the procedures were performed with three ports under 10 or 14 mmHg pressure. The mean operative time for LA was 45 min. (25-90 min). The mean hospital stay was 14 hours (6h-3 days). Totally four

(4.4%) complications occured; in one patient as mechanical obstruction, in two patients as appendiceal stump abscesses, and in one patient as subhepatic abscess. Suction drainage was applied in 3 patients(3.3%). The rate of negative laparoscopic exploration was 11,1%. Only two (2.2%) conversion to an open procedure was practiced; nonvisualization because of regional inflamation 1(1.1%) and regionalinflamation 1(1.1%).

Conclusion: The laparoscopic treatment of acute apendicitis an a safe method, which can be used in suited patients with low morbidity and mortality

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Laparoscopic management of complication of meckel's diverticulum

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Abstract: The laparoscopic approach became recently valid for many surgical emergencies such peritonitis and bowel obstruction from many reasons. We describe our experience with two patients which explorative laparoscopyled to the diagnosis and treatment of complicated Meckel's diverticulum. One of them with intestinal obstruction and the second with massive gastrointestinal bleeding. Although 99mTc pertechnetate scintigraphy is a sensitive and specific test for Meckel's diverticulum, in adults, the scan contributes little to surgical decision making and often did not change the need for surgical intervention. We think explorative laparoscopy is safe and efficient tool for diagnosis and treatment of complicated Meckel' sdiverticulum and the practice of this procedure should be recommended.

POSTER ABSTRACTS

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The relation between histological finding of the gallbladder and surgical difficulty in Mirizzi's syndrome

Akçakaya A., Baş G., Şahin M., Alimoğlu O.

BACKGROUND: Mirizzi Syndrome is a rare biliary pathology caused by compression of the stone in the cystic duct or neck of the gallbladder. It is characterized by narrowing of the common hepatic duct due to mechanical compression or inflammation. This study aimed to assess the degree of histological inflammation of the resected gallbladder in patients with Mirizzi's Syndrom and its effect on surgical difficulties.

METHODS: Between January 1992 and December 2002, a total of 11(8 females and 3 males) patients with Mirizzi's Syndrom who were treated at the 1st Department of Surgery of SSK Vakif Gureba Training Hospital, were retrospectively evaluated. Histological evaluation was classified as acute and chronic findings. Each histological finding was further classified into four stages by degree of inflammation(none, slight, moderate, severe). The difficulties related to the surgical procedure were graded in 5 categories.(the time required for the dissection of adhesion, anatomical variation, gallbladder wall thickness etc.)

RESULTS: The mean age was 57.7 years. In 5 of the patients laparoscopic cholecystectomy was attempted (2 of them completed laparoscopically), while open cholecsytectomy was performed in 6. Where as Mirizzi type II was diagnosed in 7 of the cases, 4 of them had Mirizzi type I. Histological evaluation revealed acute inflammation in 3 cases, chronic inflammation in 2 cases and both acute and chronic inflamatory finding in 6 cases. Degree of inflammation were mild in 1, moderate in 5 and severe in 3 cases. While Mirizzi type I cases exhibited acute inflammation predominantly, the Mirizzi type II cases revealed chronic inflammation predominantly. Chronic inflammation was more related to the difficulties during the procedure.

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46

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CONCLUSIONS: We found out that histological degree of inflammation was high in both types of Mirizzi Syndrome. While acute inflammation was remarcable in Mirizzi type I, chronic inflammation was predominant Mirizzi type II. Chronic inflammation was related to difficult surgery in cases with Mirizzi's Syndrome.

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Biloma after laparoscopic cholecystectomy

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Background: The aim of this study was to evaluate diagnosis and treatment of biliomas caused because of bile tract injuries in spite of increasing surgical experience and rutinly useage of laparoscopic cholesistectomy.

Material and Method: Laparoscopic Cholesistectomies which have been performed between January 2000 to January 2002 in our clinic were included to the study.Cases were evaluated according to the way and the location of the injury, metods used in diagnosis and treatment and mortality and morbidity.

Results: Size and the location of the injury were diagnosed by computered thomography and ultrasonography. ERCP, sphinterotomy and percutanouos drainage were performed to all patients. In 3 cases bile leakage has ceased in 7 days after drainage. Hepaticojejunostomy was performed to a case who have developed Bismuth type III stenosis. We had no mortality.

Conclution: ERCP is the gold standart for the diagnosis of biliomas and first of all biliomas have to be drainaged percutaneously. Surgical treathment has to be considered for the severe bile tract injuries which could not treated with sphincterotomy and biliary stent insertion.

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What is the diagnostic value of ultrasonography before laparoscopic cholecystectomy

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Laparoscopic cholecystectomy (LC) is the standart procedure for the treatment of symptomatic gallbladder stones. However of all LC, 1-13% require conversion to an open cholecystectomy.

Aim: It would be helpfull to establish criteria that could asses the risk for conversion, preoperatively. We aimed in this study to determine the risk for conversion by using ultrasonography.

Methods: In this study 7 parameters were evaluated in each of 100 patients by ultrasonographic examination in order to predict the surgical complication, difficulties and the probability of converting to open surgery. This parameters were gallbladder size and volume, number, size and mobility of calculi, wall thickness and ejection fraction (EF). Also the operative findings, including adhesions, difficulty in dissecting callot triangle and gallbladder bed, bleeding and operation time were collected and compared with the preoperative US findings. The results were analysed statistically.

Results: In 40 patients preoperative findings revealed that the operation could be difficult. The laparoscopic procedure was converted in 2 patients to open and in 36 patient the operation was difficult according our operative assesment.

Conclusion: We found out that EF, wall thickness and gallbladder size can be used as predictive ultrasonographic findings in preoperative assesment.

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The effect of histological inflammation degree on gallbladder perforation during laparoscopic cholecystectomy

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Background: Laparoscopic cholecystectomy (LC) is the gold standart technique for the treatment of symptomatic gallstones. Intraoperative gallbladder perforation is the possible and common complication of this technique. The aim of this study was to identify the effects of inflammation degree on gallbladder perforation during LC.

Methods: Between July 1997 and December 2002, 481 patients underwent LC for symptomatic gallstone disease at the 1st Department of Surgery of Vakif Gureba Training Hospital. During this period, 28 (%5) patients required conversion to open surgery and excluded from the study. Data was collected retrospectively . Patients with and without gallbladder perforation were compared in terms of sex, age, acute inflammation , chronic inflammation, anatomic difficulty, experience of the surgeon, omental and organ adhesions to the gallbladder.

Results: Intraoperative gallbladder perforation occurred in 69 cases (% 14,34). Although no differences were found for age, sex and chronic inflammation, there were significant difference between acute inflammation ($p< 0.05$), anatomical difficulty ($p<0.001$), experience of surgeon ($p<0.001$) and omental ($p<0.001$) and organ adhesions ($p<0.001$).

Conclusions: Gallbladder perforation is common complication of the laparoscopic cholecystectomy. Acute inflammation, experience of the surgeon, anatomical difficulty, adhesions of the omentum and others organs to the gallbladder play an important role in gallbladder perforation during laparoscopic cholecystectomy.

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Comparative study of return to work after laparoscopic or open cholecystectomy

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Aims: The goal of this comparative study is to establish whether there is discrepancy between the time needed to regain the ability to work among patients treated with laparoscopic cholecystectomy (LC) method and the patients treated with open cholecystectomy respectively.

Methods: In this prospective study we analised the delay in return to work following LC and OC among 100 patients who underwent these surgical procedures at Surgical Clinic, Clinical Center Nis during 2002. All patients involved in the study were employed and diagnosed with chronic calculous cholecystitis without intraoperative complications. They were divided into two equal groups, 50 patients each, similar in respect with sex, age and physical effort at work. General practice specialists who supervised their recovery after hospital discharge conducted semistructured interviews with the patients. The patients were interviewed twice, 4 and 6 weeks after the procedure.

Results: The median age of the patients was 45 (raging from 25-63). The median rate of delay in return to work among patients treated with LC was 14,3 days (5-21) and 27,1 (12-37) among patients treated with OC. The first group also had significantly shorter period of hospitalisation.

Conclusion: The LC represents golden standard in the treatment of gallstone disease with significantly shorter delay in return to work.

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Laparoscopic cholecystostomy in acute cholecystitis in elderly patients

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INTRODUCTION: Cholecystitis, in a disease of chemical or microbial inflamation of the gallblader which has a high mortality can cause acute peritonitis by the delay in the treatment. Cystic duct obstruction, ischemia and infection are the tactors which have role in etiopathogenesis: Early laparoscopic intervention is becoming a prefered approach in the treatment

MATERIALS AND METODS: Seven cases over 65 years old were included to our study which were subjected to operation between. January 1999-July 2003 in our clinic All the cases were accepted to operation to perform laparoscopic cholecystectomy. Operation Technique. Abdominal cavity was explorated by the insertion of the trocars in optimal positions. Findings which suggest acute cholecystitis were the swelling of gallblader, pallblader bed. porta hepatis mid Callot, of gallblader wall and hidrops of the gallblader were present in all cases, We concluded to perform cholecystoctomy to the patients of which cholecystectomy was impossited laparoscopically nor conventionally Gallblader was discharged with an insertion of a Veres needle Foley catheder of" 16F was inserted. from ft trocar entrance to the cross-like incision on the fundus of the gallblader and ıt's baloon was filled wich saline solution.

RESULTS: Three of the cases (%42,8) were men and 4 of the cases (%57.2) were women and the mean age was 66, 5 years old The catheter used lor cholecystostomy was KEPT in for 2 months. Two months later, laparoscopic cholecystectomy was performed to S of the cases (%71) and conventional cholecystectomy was performed to 2 of the cases (%29), Mean hospital stay was 6 daya and there was no mortality

CONCLUSION: Mortality and morbidity of acute cholecystitis in elderly patients due to the operation is high, In the treatment of acute Cholecystitis there was no significant difference between early and delayed surgical intervention compared with mortality and postoperative complications. Curently early laparoscopic surgical treatment is the most popular approach, When cholecystectomy is techniqually impossible, laparoscopic cholecystectomy is the choice lor surgical treatment Cholecystostomy decision must be given before the dissection is progressed Laparoscopic cholecystectomy is a minimal invasive procedure and enables a possibility for laparoscopic cholecystectomy procedure which will be performed subsequently.

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Safety of laparoscopic cholecystectomy on a teaching service: do beginners adversely affect outcome of the operation?

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Aim: The aim of this study is to evaluate the safety and outcome of elective LC as a supervised teaching procedure.

Materials: One hundred and sixty six consecutive patients who had elective LC between May 2000 and May 2003 for symptomatic cholelithiasis at a single teaching clinic were recorded retrospectively. LC were allocated to three groups: Group 1(n=42) were done by supervised beginners (who had done fewer than 11 LC), Group 2(n=69) by supervisewd trainees who had a little experience (they had done more thjan 10 but fewer than 29) and the Group 3(n=55) who were experienced surgeon (they had done more than 30).The groups were evaluted according to demographics of the patient, duration of the operation, conversion rate to open technique, minor (minor blood loss, intraabdominal loss of gall stone, superficial damage to liver tissue) and major (major bleeding, bile duct injury, biliary leakage, intestinal injury, vascular injury) intraopewrative complications, reopera-

tion, port-site complication(wound infection, incisional hernia), systemic complication(cardiac, pulmonary, deep venous thrombosis), postoperative hospital stay and mortality.

Results: The minor intraoperative rates wetre 20/42, 19/69, 11/55 respectively.It was statistically significant when group 3 were computed with others. There were no significant difference between three groups regarding major complications .The conversion rates were 3/42, 2/69, 1/55.The etiology of convertion to open surgery was difficulty of Callot dissection due to acute cholecytitis in two cases in Group 2 and 1 case in Group 3, and injury to cystic artery in 2 cases and hemorrhage due to liver injury in 1 case in Group 1. One patient was reoperated because of biliary fistula due to biliary tract injury in Group 1. Also one patient with biliary fistula was managed by ERCP in Group 2. Median length of operation were 88 (44-155), 57(25-101) and 49(21-99) minutes and hospital stay were 3(1-11), 2(1-5) and 1,2(1-3) days. There was no mortality in all groups.

Conclusion: LC is a safe and an useful procedure for introducing and educating supervised inexperienced surgeons who do not adversely affect operative outcome.

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Laparoscopic management of lymphocele after renal transplantation

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Lymphocele occur following % 0, 6 - 18, and 1 of renal transplantation. Most of lymphoceles develop within the first year of transplantation. Although they are asymptomatic, they can cause an increase in creatinine levels, decreased urine output resulting from compression of the kidney or ureter, a palpable mass or abdominal pain or edema and leg pain from compression of the iliac vein. Once a lypmhocele has become symptomatic this condition has to be treated. Therapeutic options are percutaneous drainage, needle aspiration with sclerosing therapy, or internal surgical drainage by conventional or laparoscopic approach. Laparascopic drainage has every advantage of laparascopic surgery compared to open drainage with additional lower recuurence rate. We report two cases of post-transplant lymphocele treated with laparoscopic internal peritoneal drainage among 300 cases between August 2000 and August 2003.

Case I: Patient was 57 years old, female. She was admitted with edema of the ipsilateral leg, 28 days after transplantation. Serum creatinine was increased from baseline value of 1, 6 to 2, 0 mg/dl. On ultrasonographic examination lymphocele was observed measuring 63x74 mm. percutaneous drainage was applied. One week later it recurred. Then laparoscopic internal peritoneal drainage was applied. After that procedure creatinine level was decreased. No recurrence was observed after 6 months follow up.

Case II: Patient was 33 years old, male. At first month follow up his serum creatinine level was detected as elevated from 1,8 to 2,84mg/dl. Lymphocele was found at ultrasonographic examination measuring 77x100 mm. After recurrence following percutaneous drainage, laparoscopic internal peritoneal drainage was applied. There was no recurrence after 6 months follow up.

Conclusion: The laparoscopic approach has become widely accepted for the treatment of lymphoceles following kidney transplantation because of shortened hospitalization, minimal morbidity, cosmetic results and low recurrence rate. Laparoscopic internal peritoneal drainage may be considered a safe and effective procedure of management symptomatic lymphoceles. According to our knowledge, those are the first cases performed laparosopically in our country. I will be registered in couple of days and forward the registration form to you immediately

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Fatal complication of laparoscopic cholecystectomy: mesenteric ischemia

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AIMS: Laparoscopic cholecystectomy has become the standard treatment for symptomatic cholecystolithiasis. Intestinal ischemia cases after laparoscopic cholecystectomy were rarely reported. We raport a case of fatal mesenteric ischemia following laparoscopic cholecystectomy.

CASE: A 70 year-old man was admitted with a right upper abdominal pain has been occuring sometimes for two years. Cholecystolithiasis was diagnosed with investigations. He had no other disease. Laparoscopic cholecystectomy was performed in 50 minutes under 12 mmHg pressure without any problem. He had some moderate abdominal pain postoperatively first day. The pain increased in postoperatively second day and rebound tenderness in lower abdomen and leucocytosis (24000/mm^3) developed and intestinal sounds were hypoactive. General condition of the patient was impaired and our decision was laparotomy in the same day. In abdominal exploration, it has been observed intestinal necrosis from 20 cm distal of Treitz to the beginning of sigmoid colon. Additionally, there were many calcified atherom plaques in abdominal aorta and major branches. Intestinal resection and end-to-end anatomosis was performed. The patient was lost after 36 hours of that second operation.

CONCLUSION: Increasing of the abdominal pressure with pneumoperitoneum can cause a decreasing of the blood flow in splanchnic area. Especially in elderly with atherosclerosis and/or limited cardiac reserve, this decreasing may not be tolerated. As a result, laparoscopic procedures with a CO2 pneumoperitoneum may be performed at a pressure of 10 mm Hg or lower to avoid splanchnic microcirculatory disturbances and mesenteric ischemia should be considered in the differential diagnosis of patients developing nonspecific abdominal symptoms after laparoscopic procedures.

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Laparoscopic practices in colorectal malignancies

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Aims: Laparoscopic procedures for colorectal malignancies have been considered with increasing surgical experience of laparoscopy and advancements in technology. The aim of this study was to examine the results of a single institution experience with laparoscopic resection for colorectal malignancies.

Patients: Between March 2002-July 2003, 10 patients with colorectal malignancy had been operated laparoscopically in our institution. Seven (70%) of the cases were male, three (30%) were female patients. Mean age was 61 (48-74).

Results: Procedures performed were: low anterior resection (four), right colectomy (two), left colectomy (one), sigmoidectomy (one), sigmoid colostomy (one). One case was converted to celiotomy bearing a rectal tumor and APR was done. There were no deaths. The mean duration of operation was 155 (60-180) minutes. Postoperative complication developed in four cases; lengthened paralytic ileus (one), bleeding occured at the trocar site (one) retraction of the colostomy (one) and anastomotic leakage associated with urinary fistula (one). The mean length of hospital stay was 7.4 (2-14) days. The mean follow-up was 5.7 (1-17) months.

Conclusions: Although laparoscopic resections in colorectal malignancies are performed in many centers at present, the results are still subject to debate. Despite the prolonged operative time, laparoscopic procedures for these patients provide faster return of gastro-intestinal functions and early recovery. The increase of experience and the results of randomized studies would be of help.

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Laparoscopic repair of recurrent inguinal hernias

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Aims: Reccurent inguinal hernia surgery is usually difficult to perform due to fibrosis and non-intact anatomic structures. Therefore, laparoscopic interventions seem to be rational in those cases and are increasingly used. Herein we present our experince in recurrent inguinal hernia treatment by laparoscopic approach.

Methods: We retrospectively evaluated the patients who underwent laparoscopic recurrent inguinal hernia repair in Istanbul University Cerrahpaşa Medical School, Department of General Surgery.

Results: Thirty-two patients underwent total extraperitoneal repair (TEPP) with polypropylene prosthetic mesh due to recurrent inguinal hernias. There were twenty-nine (90.6%) unilateral and three (9.4%) bilateral recurrences. In two patients (6.25%) the procedure was converted to open repair due to technical difficulties. The mean operation time was 72 min (range, 65-86 min.). Intraoperative complications have taken place in seven (21.8%) patients (pneumoperitoneum in five and inferior epigastric vessels injury in two) and the trouble could have been dealed laparoscopically in each case. There were minor postoperative complications in seven (21.8%) patients including wound infection, seroma, tissue reaction and hematoma. Mean hospital stay was 2.1 (range, 1-10 days) days. Mean follow-up was 34.4 (14– 58) months. Recurrence was observed in one patient(3.1%).

Conclusions: Laparoscopic repair of recurrent hernia which utilizes technically healtier tissues, has better long-term results. This approach seems to be a reasonable alternative to open technique.

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Trocar site hernias after laparoscopic cholecystectomy

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AIMS: Complications of laparoscopic surgery attracts attention as advances in laporoscopic techniques leads to its widespread use in surgery. In this study we aimed to determine the risk factors causing trocar site hernias, which is one of the complications of laparoscopic surgery

METHODS: Between December 1999 and March 2003, 115 patients has undergone laparoscopic cholecystectomy, at Depatment of 3rd General Surgery, Şişli Etfal Training and Research Hospital. Two (%1.7) of these patients and 2 patients who had been referred from an other hospital, have attended to our clinic with postoperative trocar site hernias. The length of postoperative period until the hernia occured, location of the hernias, wound infection and whether the insicion had been sutured at the operation or not have been evaluated for all patients.

RESULTS: All the patients who have been operated for trocar site hernias were female. The mean age was 58 (55-90) years. The hernias have occured between the 2nd postoperative day and 48 months, and they were all located belove the umblicus where the 10 mm port had been placed. Non of the port sites had been sutured at the operations. One patient had developed wound infection at the port site. Two patients has undergone primary repair and the other two hernias were repaired with prolene mesh.

CONCLUSION: The most important risk factors affecting trocar site hernias are, the diameter of the trocar, not suturing the fascia defects larger than 10 mm, insufficient aproximation of the fascia and infection.

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Laparoscopic treatment of ventral hernias

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Aims: Our objective was to evaluate our preliminary results of laparoscopic ventral hernia repair.

Methods: We asessed the records of the patients who underwent laparoscopic ventral hernia repair in PTT Training and Research Hospital, Department of General Surgery.

Results: Between March and May, 2003, four patients underwent laparoscopic ventral hernia repair with polypropylene prosthetic mesh. All of the patients were female and the mean age was 54.5 (range, 44-65). The etiologies were incisional hernia and umblilcal hernias in two patients each. Moreover, there were concomitant cholelithiasis in two patients. We performed laparoscopic repair in every case successfully. In two patients, an additional laparoscopic cholecystectomy was added to the procedure. Four trocars were used in three operation whereas five trocars in one. The mean operation time was 130 minutes (range, 90-160 minutes) and mean hospital stay was three days (range, 2-4 days). There was no early postoperative complication. For a mean follow-up time of 5.7 months (range, 5-7 months) no hernia recurrence was observed.

Conclusions: Laparoscopic repair of ventral hernia surgery seems to be quite practical to perform. This technique provides further comfort while laparoscopic management of a concomitant disease, such as cholelithiasis, is considered.

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Duration of hospitalization in laparoscopic surgery: 6-24 hours

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Laparoscopic surgery has a lot of advantages. One of them is short stay in hospital. From January 2000 to September 2003, 99 consecutive laparoscopic surgical procedures have been performed by Öğünç. Demographic features of patients are shown in Table I. There was no comorbidity in all patients.

There was no morbidity and mortality in the postoperative period. There was no requirement of admission to the hospital. The results obtained from this personal series suggest that patients who have been performed laparoscopic surgery could safely be discharged on the first day (6-24 hours) following the operation.

Table 1. Demographic features of patients.

Laparoscopic procedure	Number of patients	Gender F/M	Mean age	Duration of hospitalization
Gastric banding	7	5/2	36.7	1 day
Splenectomy	2	1/1	22.0	1 day
Partial fundoplication	2	1/1	43.5	1 day
CAPD cath. placement	26	18/8	48.4	1 day
Diagnostic laparoscopy	5	3/2	39.4	1 day
Nephrectomy	1	1	72	15 hours
Incisional hernioplasty	1	1	41	14 hours
Cholecystectomy	39	28/11	48.8	6-8 hours
Hernioplasty (TAPP, TEP)	16	14/2	51.3	6 hours

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Laparoscopic donor nephrectomy

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Aim: Laparoscopic donor nephrectomy (LDN) has gained popularity throughout the world recently. Although LDN has many advantages over open donor nephrectomy such as early recovery, less long-term postoperative complications, better cosmesis and shorter hospital stay for the donors. The aim of this paper is to present the uniq LDN series in our country.

Method: Fourty living laparoscopic donor nephrectomies have been performed between November 2000 and September 2003. All the procedures were performed via transperitoneal approach.

Results: The mean duration of the donor surgery was 246 min (max 420, min 190). The mean warm ischemia time was 4 min 40 sec. In 7 patients right sided, in 23 patients left sided nephrectomy was performed. Laparoscopic nephrectomy was converted to open procedure in eight donors (20 %). Intraoperative bleeding (3 major, 1 minor bleeding) was the most common cause for conversion. The other reasons were diffuculty in diection in 3 patients, and technical in 1 patient. Postoperative urinary complications were seen in 17.5 %, vasculary complications in 12.5 % of the patients. Lengths of hospital stay of the donors was 3.3 days.

Conclusion: Laparoscopic donor nephrectomy was preferred in more and more patients, as experience grew, due to the charm of short hospital stay, less postoperative pain, scar and incision morbidity. In our transplantation clinic, as our surgeons gained experience in various laparoscopic general surgery procedures in the last ten years, LDN was started first with selected patients, than on routine basis.

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Laparoskopik fundoplikasyon: ilk 23 olgudaki sonuçlarımız

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AMAÇ: Laparoskopik Nissen Fundoplikasyonlu olgularimizin sonuçlarini sunmak

METOD: Ekim 2000 – Temmuz 2003 tarihleri arasinda gastroözofageal reflü (GÖR) hastaliği nedeniyle laparoskopik Nissen fundoplikasyonu yapılan 23 hastanin kayıtları retrospektif olarak değerlendirildi ve telefon görüşmesi ile son durumlari soruldu.

SONUÇLAR: Olgularımızın 13'ü erkek, 10'u kadindi. Yaş ortalaması 44.8 ± 10.8 (30-70) idi. GÖR'lü 23 hastanin 19'unda özofajit, 13'ünde sliding hiatal herni, 2'sinde Barret özofagus bulunmaktaydı. Tüm olgularin ameliyatı laparoskopik olarak tamamlandı, 2'sinde kolelitiazis nedeniyle kolesistektomi de yapıldı. Perop. komplikasyon, reoperasyon ve mortalite olmadı. Ortalama (ort.) operasyon süresi 190.6 ± 46.1 (100 – 300) dk. ve hastanede kalış süresi 3 ± 1 (2-5) gündü. Ancak ilk 10 olgu ile bunları izleyen son 13 olgunun ort. operasyon süreleri (218.0 ± 47.9 ve 160.5 ± 38.0 dk.) ve hastanede kalış süreleri (3.7 ± 0.8 ve 2.6 ± 1 gün) arasında anlamlı fark bulundu ($p< 0,005$). Hastaların ortanca izlem süresi 5.5 (1 – 30 ay) idi.

Erken komplikasyonlar (ilk 3 ay) olarak 5 (%21.7) disfaji, 6 (%26.0) gaz – bloating, 2 (%8.6) ishal görüldü. Geç komplikasyonlar (ilk 3 aydan sonra) 1 (%4.3) 1 disfaji, 3 (%13) gaz bloating, 1 (%4.3) ishal olarak belirlendi. Hastalarımıza ameliyat öncesi durumları gözönüne alınarak ameliyattan memnun olup olmadıkları sorusu yöneltildiğinde; 21 (%91.4)'inden olumlu, 1 (%4.3)'inden olumsuz, 1 (%4.3)'inden kısmen olumlu yanıtı alındı.

GÖR nedeniyle laparoskopik Nissen fundoplikasyonu yaptığımız ilk 23 olguluk bu küçük seride kabul edilebilir uygun sonuçlar elde edilmiştir.

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Endoscopic perforan ven ligation

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Two cases with lower extremity perforatuar vein insuffiency those are treated with Endoscopic Perforan Vein Ligation operation are presented. Both cases are diagnosed and controlled by colour doppler ultrasound. Both cases had isolated perforan vein insuffiency. Operation times are 60 and 70 minutes. There was no complication observed peroperatively and postoperatively. Recovery time was very quick and there was no morbidity. Colour Doppler Ultrasound control showed that insuffiency problem at perforan veins solved and the superficial veneus dilatations regressed. So that for perforan vein insuffiency Endoscopic Perforan Vein Ligation will be the first choice.

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Obezite Tedavisinde Bionterics Intragastrik Balon Uygulamasının Erken Sonuçları*

Alp BOZBORA[1], Halil COŞKUN[2]

ÖZET

Amaç: Bu çalışmada, kliniğimizde obez hastalara endoskopik olarak uygulanan intragastrik balon (IGB) uygulamasının etkinliği ve erken sonuçları değerlendirilmiştir.

Materyal ve Metod: İstanbul Tıp Fakültesi Genel Cerrahi Anabilim Dalı Obezite Cerrahisi Polikliniğinde Ocak 2000 ve Aralık 2001 tarihleri arasında, 10 obez hastaya Bioenterics İntragastrik Balon (BIB) yerleştirildi. Bunlardan 2'sine 3. ayda BIB çıkartıldıktan sonra laparoskopik ayarlanabilir silikon mide bandı (LASMB) uygulandı. İGB, hastalarda 3ay ile maksimum 6 ay arasında yerleşik kaldıktan sonra çıkartıldı. Hastalara 1200 kcal/gün diyet verildi, her ay kontrolden geçirildi (rutin kan testleri ve kilo kontrolü).

Bulgular: Preoperatif değerlendirmede 10 hasta da (8'i kadın, 2'si erkek), ortalama yaş 38.5 yıl (27-57) idi. Ortalama vücut kitle indeksi (VKİ) 40.2 kg/m² (36.5-48.7), ortalama ağırlık 102.7 kg (85-125) tespit edildi. Hastaların ortalama 6 ay (3-12) takibinde, 3. ayda ortalama VKİ 37.4 kg/m² (33-45), 6. ayda ortalama VKİ 34.25 kg/m² (31-36), ortalama kilo kaybı 18.5 kg (10.5-28.1) bulundu. Altı hastada bulantı kusma şikayeti mevcuttu. Major komplikasyon gelişmedi.

Sonuçlar: BIB endoskopik olarak uygulanan, obezite tedavisinde orta derecede kilo kaybı sağlayan, geçici ve kullanışlı bir yöntemdir.

Anahtar Kelimeler: Bioenterics İntragastrik Balon, obezite, cerrahi

SUMMARY

Treatment of Obesity with the Bionterics Intragastric Balloon Early Experience

Aim: To evaluate the efficacy and early results of endoscopic intragastric balloon (IGB) application, in the obese patients, in our clinic.

Material and Methods: Between January 2000 and December 2001, 10 obese patients underwent endoscopic Bioenterics Intragastric Balloon (BIB) placement, at İstanbul Medical Faculty, Department of General Surgery. Three months after the procedure, 2 of the patients had their BIB replaced by a laparoscopic adjustable silicone gastric band (LASGB). All the patients had the IGBs removed at 3 to 6 months of placement. They had a 1200 kcal/day diet, and were checked up monthly (routine blood counts, weight control).

Results: The mean age of the patients (8 female, 2 male) was 38.5 years (27-57). The mean preoperative body mass index (BMI) was 40.2kg/m_ (36.5-48.7), and the mean weight was 102.7kg (85-125). At 3 and 6 months of follow up the mean BMI was 37.4kg/m² (33-45) and 34.25kg/m² (31-36), respectively. The mean lost weight was 18.5kg (10.5-28.1). Six patients had nausea and vomiting, but no major complication was seen.

Conclusion: Endoscopic BIB application for obesity treatment is a useful but temporary method that results with moderate weight lost.

Key Words: Bioenterics Intragastric Balloon, obesity, surgery

Obezite, hayat kalitesini azaltan ve sosyoekonomik problemlere neden olan bir sağlık problemidir. Obezite ile birlikte uyku apne sendromu (1), non-insülin diabetus mellitus (DM) (2), hipertansiyon (3), iskemik kalp hastalığı (İSKH) (4), safra kesesi taşı (5), lipit metabolizması bozuklukları (6), dejeneratif eklem hastalıkları

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* 12th World Congress of the International Association of Surgeons and Gastroenterologists 2002'de poster olarak sunulmuştur (P 250).

(7) ve bazı kanser türleri (8) daha yüksek oranda görülmektedir.

Diyet, davranış tedavisi, egzersiz ve antiobezite ilaçları ile uzun süreli kalıcı kilo kaybı nadiren sağlanabilmektedir. Günümüzde en etkili tedavi yöntemi antiobezite cerrahi prosedürleri olup bunlar içerisinde en popüler olanları vertikal band gastroplasti (VBG) (9,10), gastrik bypass (GB) (11) ve laparoskopik ayarlanabilir silikon mide bandı (LASMB) (12) uygulamasıdır. Ancak bu prosedürlere eşlik eden morbidite (13) ve bazı serilerde nadir mortalite (14) bildirilmektedir.

İntragastrik balon (IGB) genel anesteziye gerek kalmadan özellikle erken doyuma ulaşmak için egzersiz ve diyet programı ile birlikte uygulanmakta ve kilo kaybı sağlamaktadır. Bu çalışmada, kliniğimizde uygulanan IGB yönteminin erken sonuçlarını irdelemek ve aynı zamanda yöntemin uygulanışı hakkında bilgi verilmesi amaçlanmıştır.

MATERYAL VE METOD

İstanbul Tıp Fakültesi Genel Cerrahi Anabilim Dalı Obezite Cerrahisi Polikliniğinde Ocak 2000 - Aralık 2001 tarihleri arasında görülen, 10 obez hastaya IGB (BIB,; Bioenterics Corporation, Corpinteria, California, USA) uygulanarak sonuçları değerlendirildi. Tüm hastalar endikasyonlar doğrultusunda seçildi ve kontraendikasyonları bulunan obez hastalara uygulanmadı. BIB obez hastalarda minimum 3 ay, maksimum 6 ay bırakıldı. Tüm hastalara uygulama sonrasında diyetisyen eşliğinde 1200 kcal/gün diyet uygulamaya başlandı.

Endikasyonlar;

1- 18-60 yaş arası
2- Vücut Kitle İndeksi (VKİ) > 35
3- Vücut kitle indeksi 30-35 olup, yandaş hastalıklarının bulunması (hipertansiyon, İSKH, DM, uyku apne sendromu, eklem rahatsızlıkları)

4- Elektif obezite cerrahisi için yüksek risk taşıyan morbid obez hastalarda (VKİ >45) antiobezite cerrahi tedavisi öncesi

Kontrendikasyonlar;

1- Gastrik ülser
2- Ciddi özofajit (grade III-IV)
3- Geniş hiatal herni
4- Özofagus ve mide anomalisi
5- Gebelik
6- Aspirin ve antikoagülan kullanımı

BIB'in yapısal özellikleri (Resim 1,2);

1- BIB salinle doldurulan silikon bir balondur ve X grafide radyo-opak valvi sayesinde görüntülenebilir.

2- Ayarlanabilir

3- Keskin kenarları yoktur ve mide içerisinde serbestçe dolaşabilir.

BIB uygulama prosedürü;

1- Tüm hastalara işlemden 12 saat önce aç kalmaları istenir ve işlemden önce damar yolu açılarak 5 mg İV Dormicum (Midazolam, Rohce İlaç San.) ile sedasyon sağlanır.

2- BIB uygulamasından önce gastroskopi yapılarak üst gastrointestinal sistem değerlendirilir.

3- Kontraendikasyon yoksa balon xylocaine jelle kayganlaştırılarak, yumuşakça özofagustan mideye doğru itilir.

4- Balon midede iken endoskopi ile bakılır ve balonun alt özofagus kavitesinin altında olduğundan emin olunur.

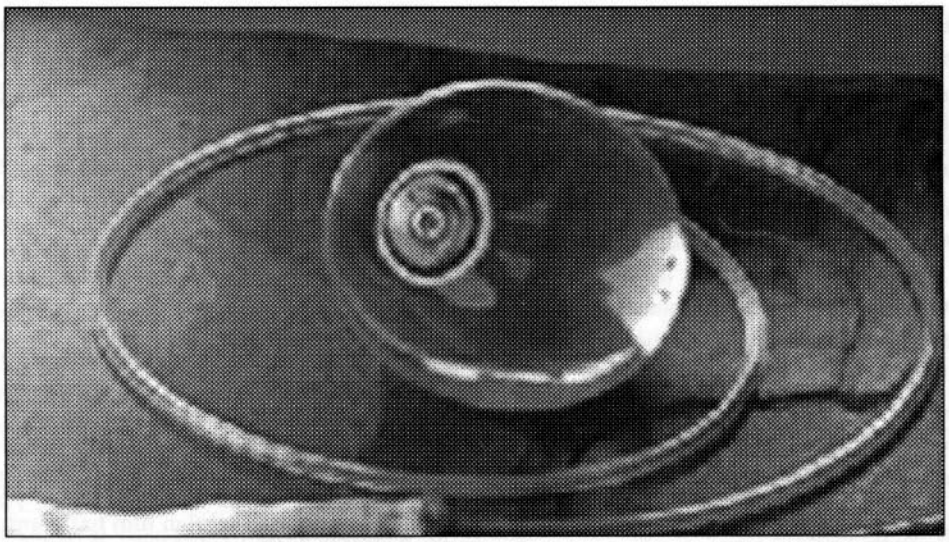
5- BIB içerisindeki tel gayt çıkartılır ve balon 0.9% NaCl içerisine metilen mavisi konarak minimum 400 cc, maksimum 700 cc ile şişirilir.

6- Şişirilmiş balondaki vakum sistemi çekilerek balonun mide içerisinde serbest kalması sağlanır ve işlem tamamlanır.

BIB uygulaması bittikten sonra, tüm hastalara ilk 24 saatte İzotonik Sodyum Klorür Solüsyonu, (%0.9 NaCl, Baxter, Eczacıbaşı İlaç San.) sıvı replasmanı, Losec flakon, 2x1 (Omeprazol 40 mg, AstraZeneca İlaç San.) ve Metpamid ampul, 3x1 (Metoclopramide HCL 10 mg, Yeni İlaç San.) uygulandı ve 24. saatten sonra oral sıvı gıda başlandı.

İstatistiksel Analiz

İstatistiksel analiz SPSS windows 10.0 istatistik paket programında yapıldı. VKİ'de meydana gelen değişiklikleri değerlendirirken, üç farklı dönemi karşılaştırmak için Friedman testi, sonuçlar anlamlı olunca, anlamlılığın hangi dönemler arasında olduğunu saptamak için ikili karşılaştırmada Wilcoxon testi kullanıldı.

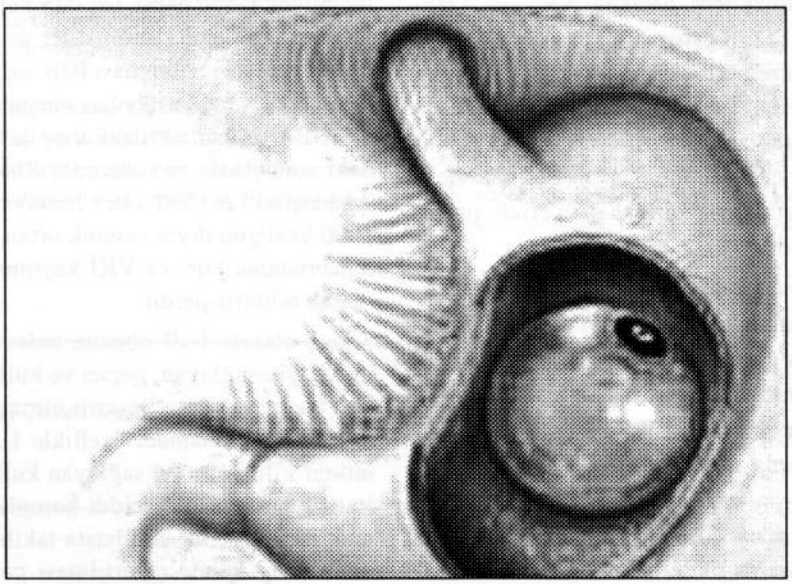


Resim 1: İntragastrik Balon'un (BioEnterics® BIBTM Systeem) resim görüntüsü.

SONUÇLAR

Hastaların 8'i kadın, 2'si erkek olup yaş ortalaması 38.5 yıl (27-57) idi. BIB uygulaması öncesi ortalama VKİ 40.2 kg/m2 (36.5-48.7), ortalama ağırlık 102.7 kg (85-125) idi. Hastalarda intragastrik balon ortalama 500 ml (400-600) %0.9 NaCl içerisine metilen mavisi ile renklendirilerek şişirildi. Hastaların ortalama 6 ay (3-12) takibinde, 3. ayda ortalama VKİ 37.4 kg/m2 (33-45) ($p<0.01$), 6. ayda ortalama VKİ 34.25 kg/m2 (31-36) ($p<0.05$), ortalama kilo kaybı 18.5 kg (10.5-28.1) bulundu.

VKİ 45'in üzerinde olan 2 hastada uzun dönemde daha efektif kilo kaybı sağlamak amacıyla 3 ay sonra BIB çıkartılarak LASMB (Lap-Band,, INAMED Santa Barbara, CA, U.S.A) uygulaması yapıldı. Diğer hastalarda BIB prosedürlere uygun olarak 6 ay sonra çıkartıldı.



Resim 2: İntagastrik Balonun mide içerisinde ki şematik görünümü.

Endoskopik BIB uygulaması ortalama 40 dk (30-50), BIB'in çıkartılması ise 50 dk da (45-60) tamamlandı. Hastaların hastanede kalış süresi ortalama 1.5 gün (1-4) idi.

BIB uygulanan 6 hastada ilk 1 hafta içerisinde, bulantı-kusma ve midede dolgunluk hissi tespit edildi. Bu hastalara intravenöz sıvı replasmanı (%0.9 NaCl) ve metpamid ampul uygulandı ve 4 hastada ilk 24 saat içerisinde semptomlar kontrol altına alındı. İki hastada ise şiddetli bulantı-kusma hissi devam ettiğinden tedaviye Zofran ampul, 2x1 (Ondansetron HCl 4 mg, Glaxo Wellcome İlaç San.) ilave edildi ve bir hafta içerisinde tamamen düzelme görüldü. Bir hastada diare gelişti ve antidiareik ilaç kullanılarak tedavi edildi. Hiç bir hastamızda, major komplikasyon (mide perforasyonu, kanama, ileus) gelişmedi.

TARTIŞMA

Obezite tedavisinde IGB uygulaması sonucunda erken dönemde verilen kilolar balonun çıkartılması sonucunda tekrar geri alınabilmektedir. Diyet, egzersiz ve davranış tedavisi ile kombine edilmeyip, tek başına kullanıldığında yeterli kilo kaybı sağlanamamaktadır. Uzun dönemde kalıcı kilo kaybı sağlamak için, başka bir antiobezite cerrahi prosedür ile birleştirilmesi gerekmektedir (15). Kalıcı bir antiobezite cerrahisinden önce, ameliyat riskini azaltmak için, hastanın VKİ'sini azaltmak gerekmektedir. Bizim çalışmamızda da VKİ 45'in üzerinde olan iki hastada daha efektif kilo kaybı sağlamak için, BIB 3 ay sonra çıkartılmış ve ASMB (Lap-Band®) başarı ile uygulanmıştır. Benzer olarak elektif artroplasti yapılacak morbid obez hastalarda da ameliyat riskini azaltmak amacıyla antiobezite cerrahi prosedürler uygulanmaktadır (16).

IGB'nin ilk uygulamalarında peptik ülser, gastrointestinal kanama, akut pankreatit ve spontan balon sönmesi gibi komplikasyonlar görülmüştür (17,18,19,20). Balon yerleştirilmesi sırasında özofagus rüptürü bildirilmiştir ancak artık yeni balonlar direkt görülerek şişirildiğinden bu komplikasyonla nadir karşılaşılmaktadır (21). En ciddi komplikasyon balonun yer değiştirip barsak obstrüksiyonuna yol açmasıdır. İlk geliştirlen balonlardan olan Garren Edwards mide balonu (American Edwards Laboratories, P.O. Box 1150, Santa Ana, California) kullanılarak yapılan çalışmalar en sık 115-136. günlerde balon yetersizliği olduğunu göstermektedir. Farklı balon modelleri kullanılan diğer çalışmalarda balonun yaklaşık 3-4. aylarda söndüğü gösterilmiştir (17,22,23). Bu seride hiçbir hastada peptik ülser yada gastrointestinal kanama gözlenmemiş ve balonun yer değiştirmesi görülmemiştir.

Bienterics firması tarafından, 1999 yılında mide içerisinde 6 ay kalabilen BIB‰ üretilmiş ve kullanıma başlanmıştır. Bizim uyguladığımız tüm IGB'ler de bu yeni tip balonlardandır.

Baratta ve ark. (24) 26 hastaya BioEnterics LAP-BAND", 10 hastaya BIB‰ kullanmış ve 4 ay takip etmiştir. BIB takılan 1 hastada 4. ayın sonunda balon spontan inmiş, BIB takılan tüm hastalarda ilk hafta mide bulantısı ve kusma şikayetleri görülmüştür. İlk 2 ay her iki grupta kilo verme oranı aynı olarak tespit edilmiş, 3. ve 4. ayda LAP-BAND hastaları daha fazla kilo kaybetmişlerdir. Galloro ve ark. ise (25) BIB kullandıkları hastalarla ilgili komplikasyonları yayınlamışlardır. 18 aylık periyot da 24 hastaya 32 balon takılmıştır. Ortalama tedavi 5 ay sürmüş, 2 hastada balon spontan inmiş ve barsağa geçmiştir. Otore göre hastanın endoskopisinde Helicobacter Pylori (Hp) ve peptik hastalık tespit edilmesi rölatif kontrendikasyon olup bunun BIB sistemi takılmadan önce tedavi edilmesi gerekmektedir. Hastada özofagus ve farinksle ilgili strüktürel anomaliler, büyük hiatal herni, üst GİS kanama hikayesinin bulunması, konjenital anomaliler ve daha önce geçirilmiş operasyonların bulunması BIB sisteminin takılması için kesin kontraendikasyonları oluşturmaktadır. Son yıllarda IGB uygulamasındaki artış ile birlikte geniş serilerdeki sonuçlarda yayınlanmaya başlanmıştır. Doldi ve arkadaşları (26) 281 obez hastaya 322 BIB uygulayıp, 1000 kcal/gün diyet vererek ortalama 4 ay takip etmişler, ortalama kilo ve VKİ kaybını 13.9 kg, 4.8 kg/m2 olarak bildirmişlerdir.

Sonuç olarak, IGB obezite tedavisinde orta derecede kilo kaybı sağlayan, geçici ve kullanışlı bir yöntemdir. Tek başına nadiren başarılı olmakla birlikte kalıcı antiobezite tedavisinde, özellikle LASMB'den önce bir miktar kilo vermeyi sağlayan kullanışlı bir metoddur. IGB uygulamasında ciddi komplikasyonlardan kaçınmak için düzenli, sıkı hasta takibi ve balonun maksimum 6 ay içinde çıkartılması gerektiği önerilmektedir.

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İstatistiksel Değerlendirme

	Preoperatif		3.ay		6.ay		
	Ortalama	SS	Ortalama	SS	Ortalama	SS	p
VKİ	**38,25**	**1,49**	35,50	1,60	34,25	1,67	0,000***

Friedman testi: VKİ izlem süresince anlamlı derecede düşmüştür.p<0.05

	Preoperatif		3.ay		
	Ortalama	SS	Ortalama	SS	p
VKİ	40,29	4,33	37,40	4,25	0.005

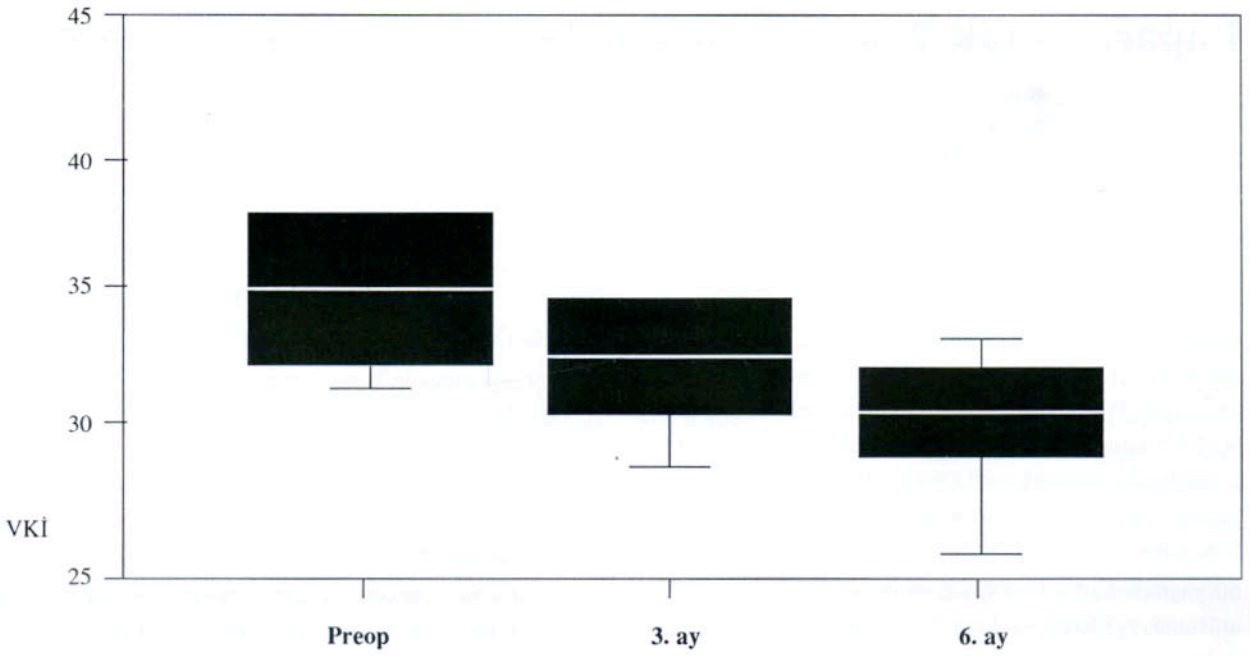
Wilcoxon testi: 3.ay sonunda VKİ preop değerine göre anlamlı derecede düşmüştür.p<0.01

	Preoperatif		6.ay		
	Ortalama	SS	Ortalama	SS	p
VKİ	38,25	1,49	34,25	1,67	0,011

Wilcoxon testi: 6.ay sonunda VKİ preop değerine göre anlamlı derecede düşmüştür.p<0.05

	3. ay		6.ay		
	Ortalama	SS	Ortalama	SS	p
VKİ	35,50	1,60	34,25	1,67	0,008

Wilcoxon testi: 6.ay sonunda VKİ 3.ay değerine göre anlamlı derecede düşmüştür.p<0.01



***Grafik 1:** VKİ'de meydana gelen değişimin grafiksel analizi.*

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Laparoskopik Transhiatal Total Özofajektomi Olgumuz

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ÖZET

Laparoskopik yöntemlerin gelişmesiyle özofagus rezeksiyonları daha düşük morbidite oranlarıyla bu yöntemle yapılabilir hale gelmiştir ancak bildirilmiş geniş seriler bulunmamaktadır. Bu sunumda, özofagus kanseri nedeniyle laparoskopik transhiatal total özofajektomi yaptığımız bir hastanın sonuçlarının bildirilmesi amaçlamaktadır.

60 yaşında kadın hastaya özofagus 26-30'uncu cm'ler arasında epidermoid karsinom nedeniyle preoperatif radyoterapi gördükten sonra laparoskopik yöntemle transhiatal total özefajektomi uygulandı. 7 saat 15 dakika süren ameliyat sırasında herhangi bir komplikasyonla karşılaşılmadı. Ameliyat sonrası dönemde şilotoraks gelişen hasta konservatif yöntemle tedavi edildi ve 26. gün sorunsuz taburcu edildi. Hasta 23. ayında kaybedildi.

Anahtar kelimeler: Laparoskopi, özefajektomi, kanser

SUMMARY

A Case Laparoscopic Transhiatal Total esophagectomy

Recent advances in laparoscopic techniques have made it possible to perform laparoscopic esophagectomy with low morbidity and mortality rates. But only a few small series have been published. The aim of this report is to present the results of our first laparoscopic total transhiatal esophagectomy.

We performed esophagectomy laparoscopicaly in a 60 year-old female with an epidermoid carcinoma of esophagus after preoperative radiotherapy. The operative time was 7 h 15 minutes. There was no operative morbidity. A chilothorax was seen in the postoperative period and was treated conservatively. The patient was discharged on the 26th postoperative day and died in the 23rd postoperative month.

Key words: Laparoscopy, esopahgectomy, cancer

Video teknolojisindeki gelişmeler ve kompleks endoskopik cerrahi deneyiminin artması laparoskopik müdahalelerin sınırının genişlemesine neden olmuştur. Laparoskopik yöntemlere artan talebin nedeni özellikle, cerrahi morbiditenin ve ameliyat sonrası ağrının azalması, hastanede daha kısa kalış süresi, normal aktiviteye daha erken dönüş gibi olan faydalarıdır.

Benign ya da malign hastalıklar nedeni ile yapılan özofajektominin yüksek morbidite ve mortalitesinin yanında hastaların ameliyat sonrası normal aktivitelerine dönmeleri de açık ameliyatlarda laparoskopik yönteme göre daha uzun süre almaktadır (1,2). En iyi özofajektomi yönteminin hangisi olduğu tartışmalı olmasına rağmen en sık kullanılan iki yöntem transtorasik ve transhiatal özofajektomidir (3). Laparoskopik cerrahideki son gelişmelerle minimal invaziv cerrahi teknikleri özofajektomi ameliyatlarına da uygulamak mümkün hale gelmiştir. Laparoskopik özofajektomi tekniklerinin etkinliğini ve güvenilirliğini gösteren bir çok araştırma mevcuttur (4-7). Biz de özofagus kanseri nedeniyle laparoskopik transhiatal özofajektomi uyguladığımız bir hastayı sunmayı amaçladık.

OLGU SUNUMU

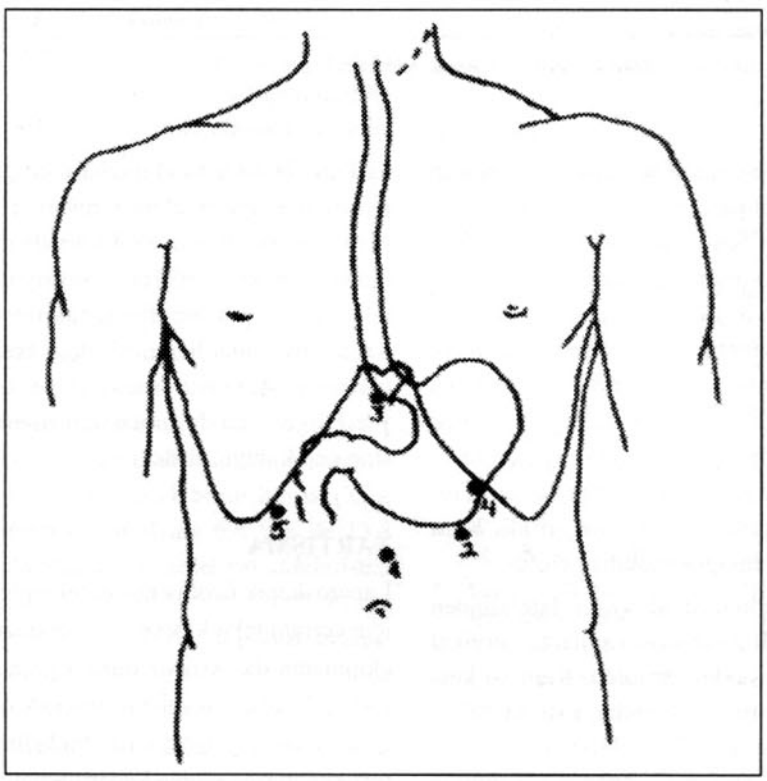
Altı aydır devam eden yutma güçlüğü ve yaklaşık 10 kg kilo kaybı şikayetiyle kliniğimize başvuran hastanın özofagus pasaj grafisinde özofagus 1/3 orta ve alt kesimleri birleşim yerinde lümeni saran kontur düzensizliği saptandı. Endoskopik incelemesinde kesici dişler-

SSK Tepecik Egitim Hastanesi, 3. Cerrahi Klinigi, Izmir

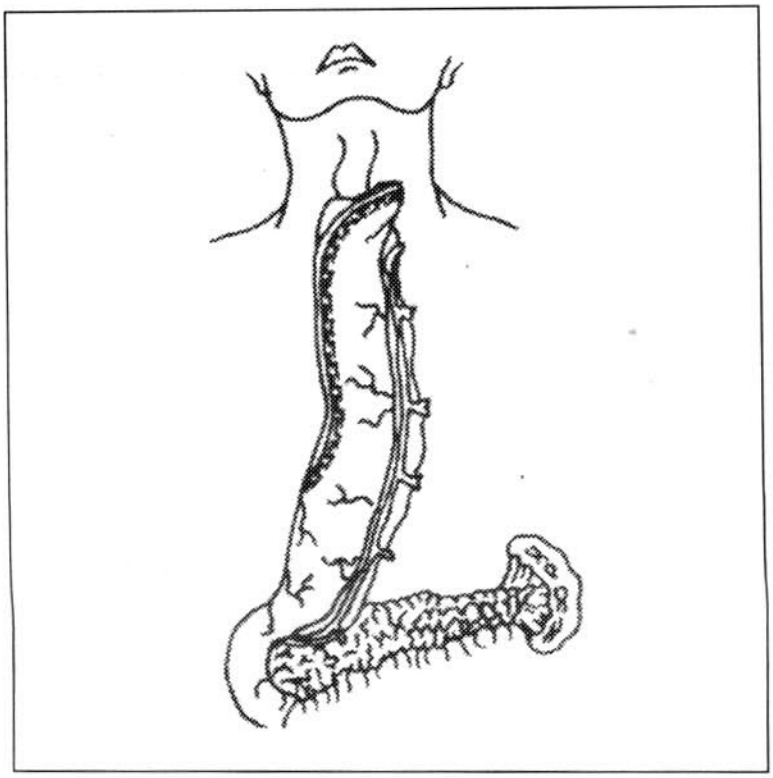
den itibaren 26. cm'den başlayan vejetan yapıda, lümeni daraltan ancak geçişe izin veren, frajil tümöral lezyon görülerek buradan biopsi alındı. Biopsi sonucu iyi diferansiye squamöz hücreli karsinom olarak yorumlandı. Bu bulgularla hastaya 60 Gy radyoterapi verildikten sonra klinik izleniminde yapılan kontrol endoskopisinde tümör görülmemesine karşın darlık olan bölgeden alınan biopsi sonucu ise şüpheli malignite olarak yorumlandı. Bunun üzerine Mayıs 2000'de 9019/2000 protokol numarası ile yatırılarak laparoskopik transhiatal total özefajektomi ve hipofaringogastrostomi uygulandı. Eksizyon materyalinin patolojik inceleme (protokol no: 2409/20) sonucu tümör dokusu yaklaşık 1 cm' lik bir yüzde insitu karsinomdan muskularis mukoza seviyesinde mikroinvazyon gösteren nitelikte differansiye mikroinvaziv epidermoid karsinom olarak tespit edildi ve lenf nodu metastazı (0/7) saptanmadı. Ameliyat sonrası döneminde gelişen şilotoraks tüp torakostomi ve kapalı su altı drenajı uygulanarak lenfatik drenajın spontan kapanması beklendi. 26. günde hastaneden taburcu edildi. Hastaya adjuvan bir tedavi uygulanmadı. Takibinde yapılan tüm incelemelerinde sorun olmayan hasta ameliyat sonrası 22. ayında yaygın kemik ağrıları şikayeti ile kliniğimize başvurdu, tüm vücut kemik sintigrafisinde yaygın şüpheli metastatik lezyonlar olmasına rağmen direk grafiler ve tomografi ile kemik metastazları kanıtlanamadı. Yirmiüçüncü ayda muhtemel yaygın kemik metastazlarına bağlı genel durumunda bozukluk nedeniyle hasta kaybedildi.

TEKNİK

İntratrakeal genel anestezi altında karın 12 mmHg basınca kadar CO2 ile şişirildikten sonra 4 adet 10 mm'-lik, bir adet de 5 mm'lik (3 nolu nokta) olmak üzere 5 trokar Şekil 1'de gösterildiği gibi yerleştirildi. 1 nolu trokar kamera girişi, 2 ve 3 nolu trokarlar çalışma trokarı, 4 ve 5 nolu trokarlar da ekartman için kullanıldı. Gastrohepatik omentum küçük kurvatur boyunca "bipolar-cutting forceps" kullanılarak ayrıldıktan sonra va-



Şekil 1: Trokar giriş yerleri.



Şekil 2: *Ameliyat tamamlandıktan sonraki şematik hali.*

sa brevialar yine "bipolar-cutting forceps" ve endoklip yardımıyla sağ krusun sol parçasına kadar ayrıldı, mide küçük ve büyük kurvatur boyunca mobilize edildi. Sağ gastroepiploik damarlar korunacak şekilde gastrokolik omentum ayrılarak mide büyük kutvatur mobilizasyon tamamlandı. Mide atravmatik retraktörle kaldırılarak pankreas ve retroperitoneumdan ayrıldı. Duodenuma Kocher manevrası uygulanarak mide daha da mobilize edildi. Pilora yönelik herhangi bir girişim uygulanmadı. Sol gastrik arter ve ven ayrı ayrı kliplenip kesildi. Frenoözofageal ligament ayrılıp mediastene girildi. Künt ve keskin diseksiyonla özofagus mobilize edildi.

Boyunda sol sternokleidomastoid kasın lateralinden yaklaşık 4 cm'lik bir cilt insizyonu yapılarak servikal özofagusa ulaşıldı, çevresinden dönüldü. Künt ve keskin diseksiyonla özofagusun üst bölümü de mobilize edildi. Özofagus tümüyle serbetleştirildikten sonra Endo GIA II (USSC Auto Suture Company) yardımıyla mide tüpü oluşturuldu. Servikal insizyondan özofagus yardımıyla mide tüpü mediastene çekildi. Bu sırada laparoskopik görüş altında midenin rotasyon yapmadığından emin olundu. Proksimalde özofagus distalde de mide transekte edilerek rezeksiyon tamamlandı. Elle tek plan uç-yan hipofaringogastrostomi yapıldı (Şekil 2). Servikal loja hemovak dren konarak ameliyat sonlandırıldı. Ameliyatın seyrine ve sonundaki eksplorasyon bulgularına dayanılarak mediastenin drene edilmesine gerek duyulmadı.

TARTIŞMA

Laparoskopik özofajektomi tekniğinin uygulanabilmesi için cerrahi teknik becerinin üst düzeyde olması, teknik ekipmanın da eksiksiz olması gerekmektedir. İlk laparoskopik total transhiatal özefajektomi De Paula (4) ve Swanstrom (5) tarafından bildirilmiştir. Ulaşabildiğimiz kadarıyla bugüne kadar ülkemizden bildirilen olgu yoktur.

Gastrointestinal sistem cerrahisine laparoskopik yolla yaklaşım hastayı cerrahiye bağlı bazı fizyolojik etkilerden korumaktadır. Bu yöntemle bir çok hasta daha az ağrı duyar, yara komplikasyonları ile kan kaybı daha azdır ve hastanın normal günlük aktivitesine dönme süresi daha kısadır (5).

Laparoskopik transhiatal özefajektomi gerçekleştirilirken bazı teknik detaylar çok önemlidir. Birincisi gastrik mobilizasyon tamamlanmadan mediasten kesinlikle açılmamalıdır. Çünkü mediastinal insuflasyon süresi uzadıkça karbondioksit absorpsiyonu artar. Bu nedenle de bu süreyi mümkün olduğu kadar kısa tutmak gerekir. Bir diğer teknik detay gastrik tüp oluşturulması zorunluluğudur. Bunun distal rezeksiyon sınırını genişletmek, re-rezeksiyon gerekliliğini azalmak gibi birkaç avantajı vardır (5). Ayrıca bu yolla piloromyotominin gerekmediği de bazı araştırmacılar tarafından gösterilmiştir (8,9). Bizde ameliyatımızı gerçekleştirirken endo GIA II (USSC Auto Suture Company) yardımıyla gastrik tüp oluşturduk ve piloromyotomi yapmadık.

Bir çok seride laparoskopik tekniğe bağlı herhangi bir cerrahi major komplikasyon yazılmamasına karşın (3,5), Luketich ve ark. (2) major komplikasyon oranlarını %27, Nguyn ve ark. (10) ise %41 olarak bildirmişlerdir. Birçok çalışmada da minör komplikasyon oranları ise %40 ile %55 arasında bulunmuştur (2,3,5,7,10). Ameliyat sonrası erken dönemde mortalite ise bildirilmemektedir (2,3,5,7,10). Bizim vakamızda da herhangi bir major komplikasyonla karşılaşmadık.

Tüm diğer laparoskopik girişimlerde olduğu gibi laparoskopik transhiatal özofajektominin avantajlarından ikisi kanama miktarının az olması ve hastanede kalış süresinin kısa olmasıdır. Literatürede iki farklı seride de ortalama kan kaybı 290 ml olarak bildirilmiştir (3,5). Hastanede kalış süreleri ise ortalama 6,4 gün ile 13,8 gün arasında değişirken ortalama ameliyat süreleri 6,5 saat ile 7,8 saat arasında verilmektedir (5,7,10). Bizim hastamızda da 7 saat 15 dakika süren ameliyat sırasında kan kaybı ölçülmemesine karşın kan transfüzyonuna gerek duyulmamıştır. Literatür verileri hastanede kalış sürelerini kısa vermelerine karşın hastamızda gelişen şilotoraksa bağlı olarak hastanede kalış süresi 26 gündür.

Diğer gastrointestinal sistem kanserlerinde olduğu gibi özofagus kanserlerinde de laparoskopinin yeri tartışmalıdır. Endişe duyulan noktalar trokar yeri kanser rekürrensleri, yeterli cerrahi sınır ve yeteri kadar lenf nodu çıkarılabilmesidir (11). Ancak kanser cerrahisinde laparoskopinin teorik bir avantajı cerrahi stresin azalmasıyla immunolojik supresyonun minimize olacak olması dolayısıyla uzun dönem sağ kalım avantajı sağlayacağıdır (5). Ancak bu konuda herhangi bir kanıt elde edilememiştir.

Sonuç olarak laparoskopik özefajektomi teknik olarak zor ancak uygulanılabilir ve güvenli bir cerrahi yöntemdir. Ameliyat süresi uzun olmasına rağmen açık cerrahi ile karşılaştırıldığında ameliyat sonrası hastanede yatış süresi her ne kadar bizim hastamızda gelişen komplikasyona bağlı uzun ise de genel olarak daha kısa olması ve hastaların günlük aktivitelerine daha çabuk dönebilmeleri nedeniyle tercih edilebilecek bir yöntemdir. Bu nedenle palyatif rezeksiyonlarda laparoskopik cerrahi tercih edilebilir. Ancak, küratif kanser cerrahisinde, laparoskopik yöntemlerin güvenilirliğinin geniş serilerle bildirilmesine kadar açık cerrahi standart cerrahi tedavi yöntemi olmaya devam edecektir.

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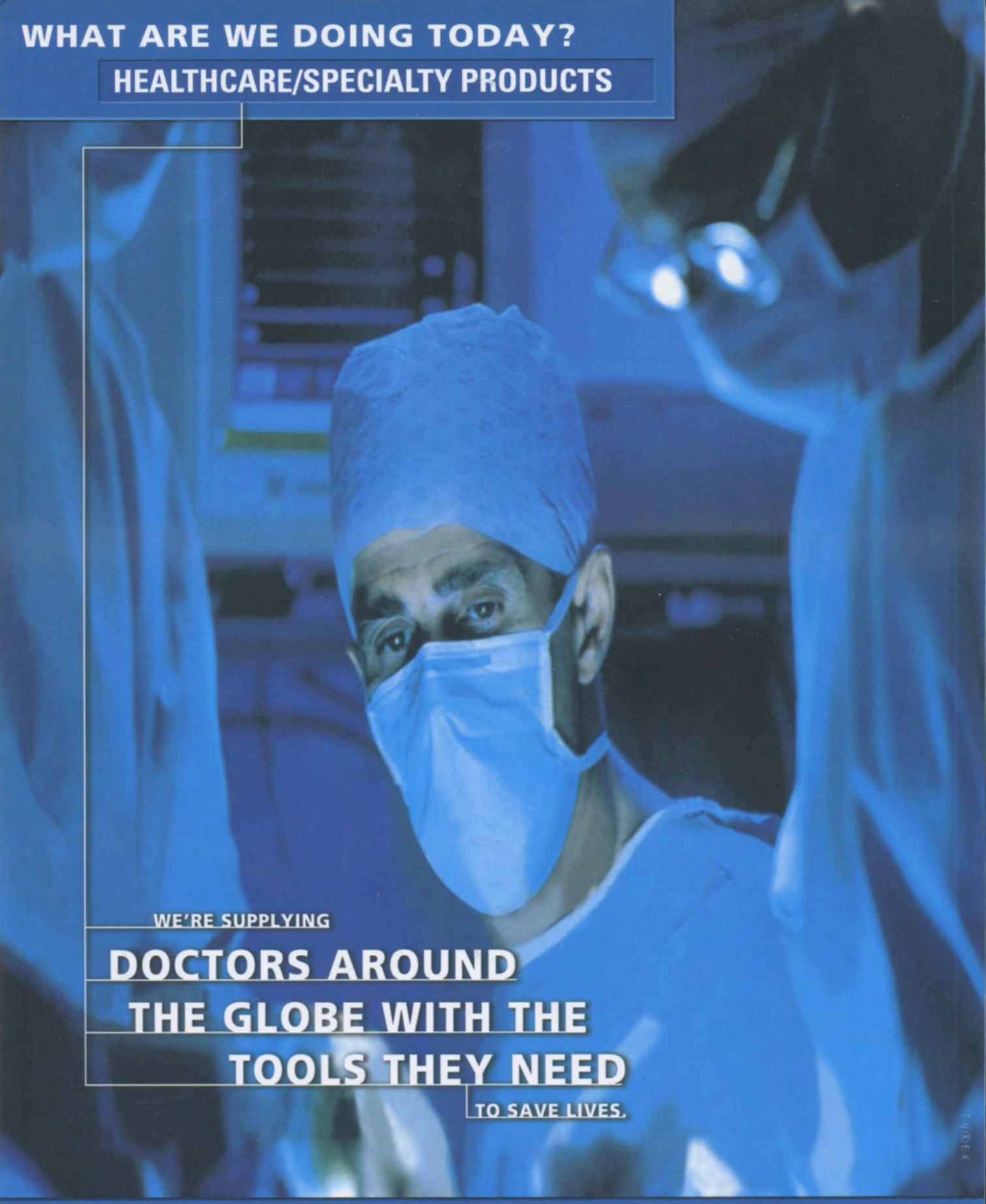

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